

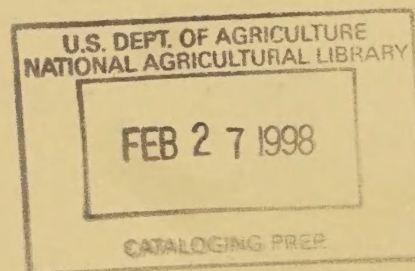

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# AGRICULTURE in the U. S.



prepared for  
National Advisory Commission  
on Food and Fiber by  
Economic Research Service  
U.S. Department of Agriculture  
Jan. 11-13, 1966

United States  
Department of  
Agriculture



**National Agricultural Library**

		Page
Section 1		1
Section 2		11
Section 3		23
Section 4	Prices and Farm Income	31
Section 5	Demand for Farm Products and Marketing	43
Section 6	Foreign Markets for U.S. Farm Products	57
Section 7	Rural Population and The Low Income Problem	69
Section 8	History of Commodity Price Support Programs	93
Section 9	World Agricultural Development and Food Needs	107

## CONTENTS



## Section 1

# THE CHANGING STRUCTURE OF AGRICULTURE

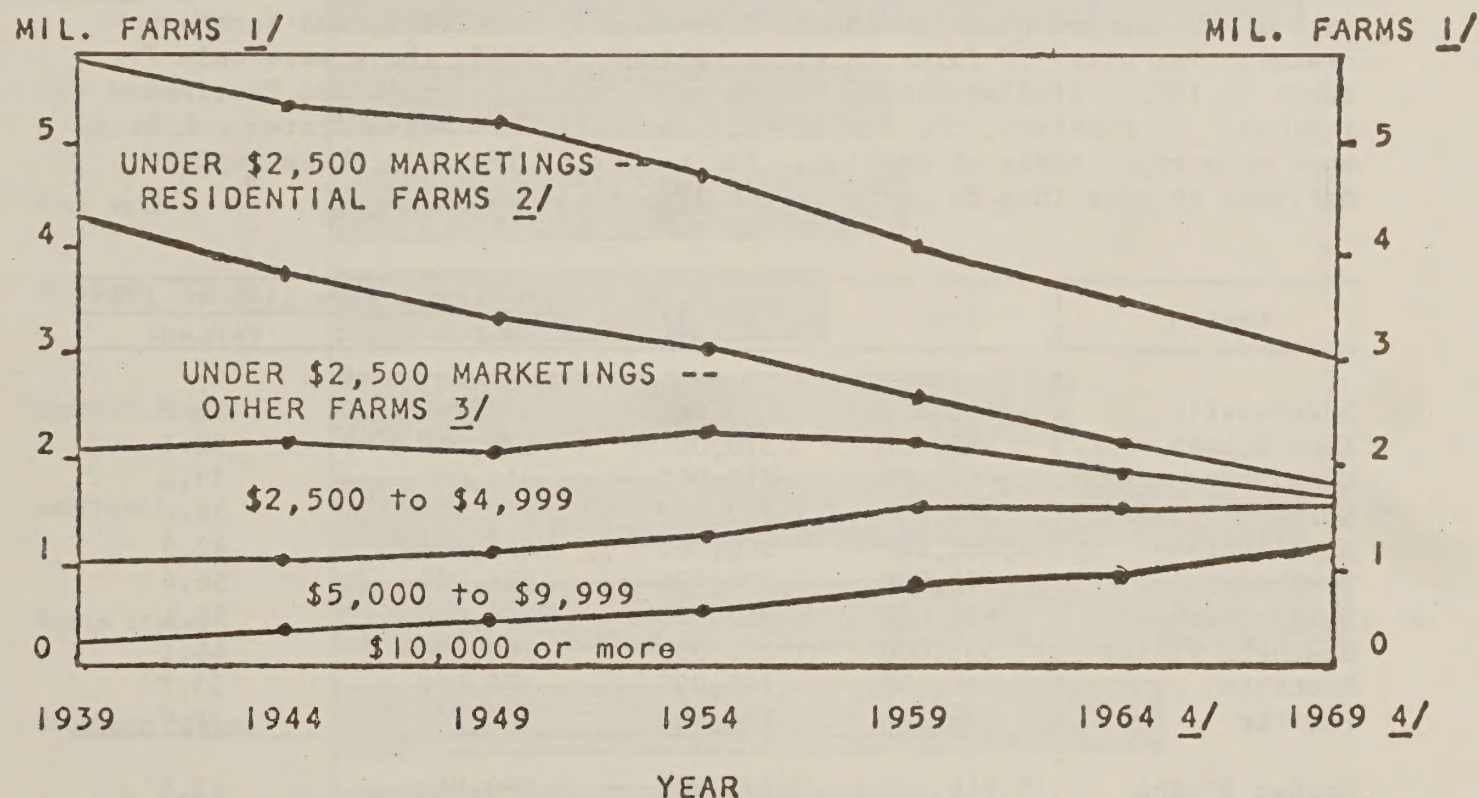
### Decline in Number of Small Farms

Today the United States has about half as many farms as we had 30 years ago. From 1939 to the present, the net decline in number of farms occurred primarily among the smaller units--those with less than \$5,000 of sales. Meanwhile, other farms shifted rapidly toward larger, more adequate sizes. Consequently, the number of proficient farms expanded. From 1939 to 1959, the number of farms with \$10,000 or more of sales increased two and a half times, their total production more than tripled, but their average production per farm barely increased 20 percent. This expansion in number of farms is even more pronounced on larger-size units. Farms with \$40,000 or more of sales increased more than three and a half times for the same 2 decades. Their total production increased only slightly less, but their average production per farm declined.

Thus, since the end of World War II, farm production in American agriculture is concentrating not on a smaller number of large farms but on an expanding number of proficient farms with \$10,000 or more of sales.

These changes reflect a readjustment of farm sizes to a changing technology and a greatly increasing national level of living. Available data do not support the notion that, under the advent of a revolutionary change in farm technology, our farm production is more and more falling under the dominance of a factory system of large corporate businesses in agriculture.

NUMBER OF RESIDENTIAL FARMS AND COMMERCIAL FARMS  
BY SPECIFIED VALUE OF MARKETINGS, U.S., 1939 TO 1969.



1/ Adjusted to 1959 agriculture census definition of farm, and for differences in prices received by farmers, and corrected for Census undercounting and to USDA estimate of total number of farms.

2/ Rural residences of families deriving their livelihood mainly from nonfarm sources.

3/ Farming represents the main occupation and main livelihood of the operators' families in this class.

4/ Estimated.



### Changes in Number of Farms by Region

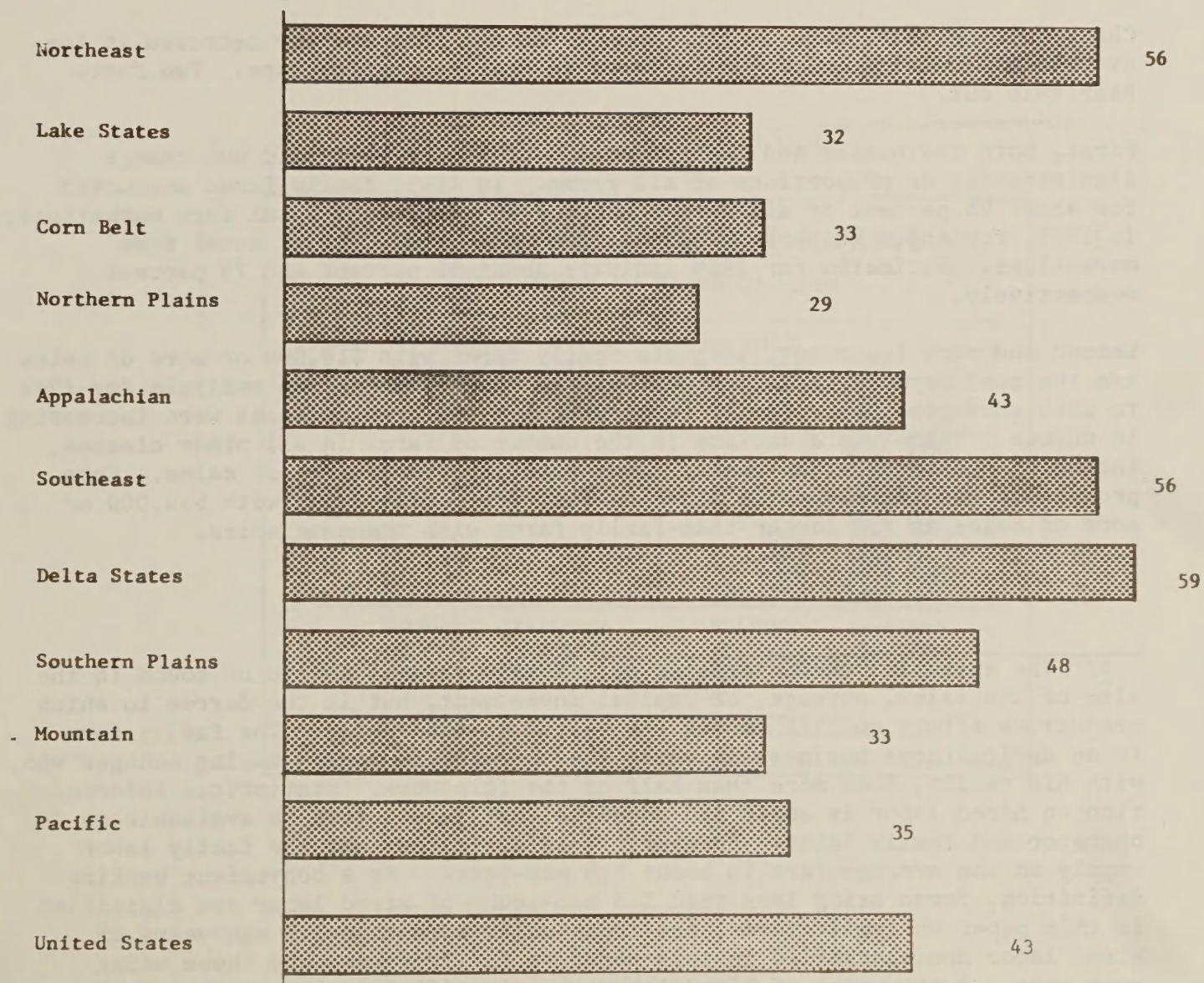
Since World War II, the number of farms in the United States has decreased by almost one half, a decline of 43 percent between 1945 and 1965. Slightly less rapid changes occurred in the Lake States, Corn Belt, and Northern Plains. For every 10 farms in these regions in 1945, there were only 7 farms in 1965. Similar declines were seen in the Mountain and Pacific regions. In contrast, the Northeast, Southeast, and Delta States exhibited much more rapid rates of decline. The number of farms in these regions declined by more than 55 percent from 1945 to 1965.

Region	:	1945	:	1965 <u>1/</u>	:	Decrease from 1945 to 1965	
						Number	Percent
Northeast	:	556,600	:	243,400	:	313,200	56.3
Lake States	:	545,000	:	370,000	:	175,000	32.1
Corn Belt	:	1,065,000	:	711,000	:	354,000	33.2
Northern Plains	:	394,800	:	282,000	:	112,800	28.6
Appalachian	:	1,061,000	:	606,000	:	455,000	42.9
Southeast	:	670,000	:	292,000	:	378,000	56.4
Delta States	:	616,000	:	252,000	:	364,000	59.1
Southern Plains	:	553,000	:	287,000	:	266,000	48.1
Mountain	:	218,650	:	146,000	:	72,650	33.2
Pacific	:	286,700	:	186,500	:	100,200	34.9
United States	:	5,966,750	:	3,375,900	:	2,590,850	43.4

1/ Preliminary.



Percent decrease in number of farms from 1945 to 1965, by regions, and U.S.<sup>1/</sup>



<sup>1/</sup> Preliminary data are used for 1965.

### Continued Predominance of Family Farms 1/

Changes in the structure of farm economy do not indicate any decrease in the overwhelming dominance of family farms in American agriculture. Two facts bear this out.

First, both the number and the production of family farms did not change significantly as proportions of all farms. In 1949, family farms accounted for about 95 percent of all farms, and for 66 percent of total farm marketings; in 1959, for about 96 percent of all farms and 69 percent of total farm marketings. Estimates for 1964 indicate about 96 percent and 73 percent respectively.

Second and more important, adequate family farms with \$10,000 or more of sales are the most rapidly expanding part of the farm economy. An analysis for 1949 to 1964 shows that only family farms with \$10,000 or more sales were increasing in number. There was a decline in the number of farms in all other classes, including the larger-than-family farms with \$10,000 or more of sales. Farm production was increasing 14 times as fast for family farms with \$10,000 or more of sales as for larger-than-family farms with the same sales.

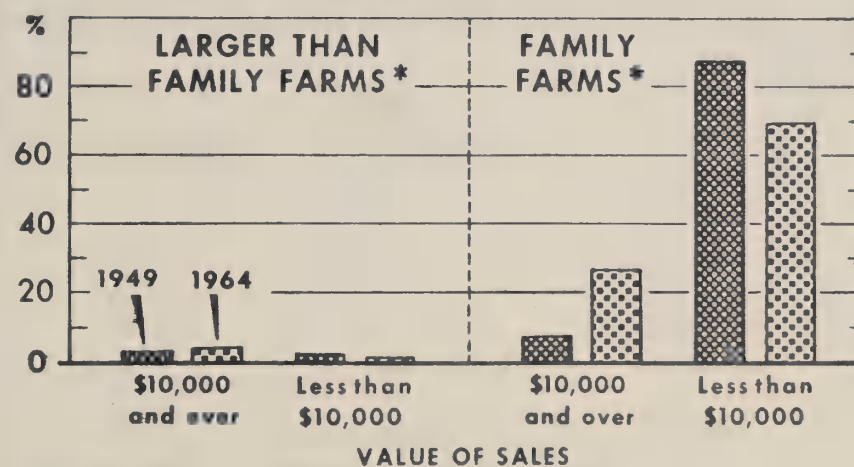
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1/ The essential characteristic of a family farm is not to be found in the size of its sales, acreage, or capital investment, but in the degree to which productive effort and its reward are vested in the family. The family farm is an agricultural business in which the operator is a risk-taking manager who, with his family, does more than half of the farm work. Statistical information on hired labor is ample and adequate, but very little is available on operator and family labor. However, it is estimated that the family labor supply on the average farm is about 1.5 man-years. As a convenient working definition, farms using less than 1.5 man-years of hired labor are classified in this paper as family farms, and those using more than 1.5 man-years of hired labor are classified in this paper as family farms, and those using more than 1.5 man-years of hired labor are classified as larger-than-family farms.



# FAMILY AND LARGER FARMS

*Proportion by Value of Sales*



\*FAMILY FARMS ARE THOSE WITH LESS THAN 1.5 MAN-YEARS OF HIRED LABOR.  
LARGER THAN FAMILY FARMS ARE THOSE WITH 1.5 AND MORE MAN-YEARS OF HIRED LABOR.

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### Land Tenure

Prevailing trends in American agriculture do not appear to be significantly altering the Nation's traditional land-tenure patterns.

Of the farms with \$2,500 or more of sales, the proportion operated by full owners and part owners increased slightly, and the proportion operated by paid managers remained negligible during the 1950's. The proportion operated by tenants declined modestly, from 30 to 23 percent of all farms with \$2,500 or more of sales.

Tenure group	Percent of farms in year 1/	
	1949	1959
Full owners	50.0	54.2
Part owners	19.8	22.7
Managers	0.2	0.3
Tenants	30.0	22.8
Total	100.0	100.0

1/ No reliable data are available for adjusting the number of farms with less than \$2,500 of sales by tenure of operators to the 1959 definition of farm. Therefore, this table is prepared on the basis of farms with sales of \$2,500 or more. Alaska and Hawaii are not included.



### Increasing Specialization of Farms

Along with the trend toward farm enlargement is a tendency for farms to become more specialized. Preliminary findings indicate that the average number of enterprises produced on each farm has been declining steadily. Of the 20 major farm enterprises, the average number declined from 5.6 to 4.3 enterprises per farm during the 1939 to 1959 period.

<u>Year</u>	<u>Enterprise per farm</u> <sup>1/</sup>
1939	5.6
1949	4.8
1959	4.3

<sup>1/</sup> Average number of the 20 major enterprises.

The following information was obtained from the records of the  
 Bureau of the Census, Department of Commerce, Washington, D. C.  
 for the years 1939 to 1942, inclusive, and for the years 1943 to 1945, inclusive.  
 The figures are given in thousands of dollars, unless otherwise indicated.  
 The figures for 1943, 1944, and 1945 are preliminary estimates.  
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1939  
 1940  
 1941

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 Bureau of the Census, Department of Commerce, Washington, D. C.  
 for the years 1939 to 1942, inclusive, and for the years 1943 to 1945, inclusive.  
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## Section 2

## FARM PRODUCTION

### Farm Output and U. S. Population

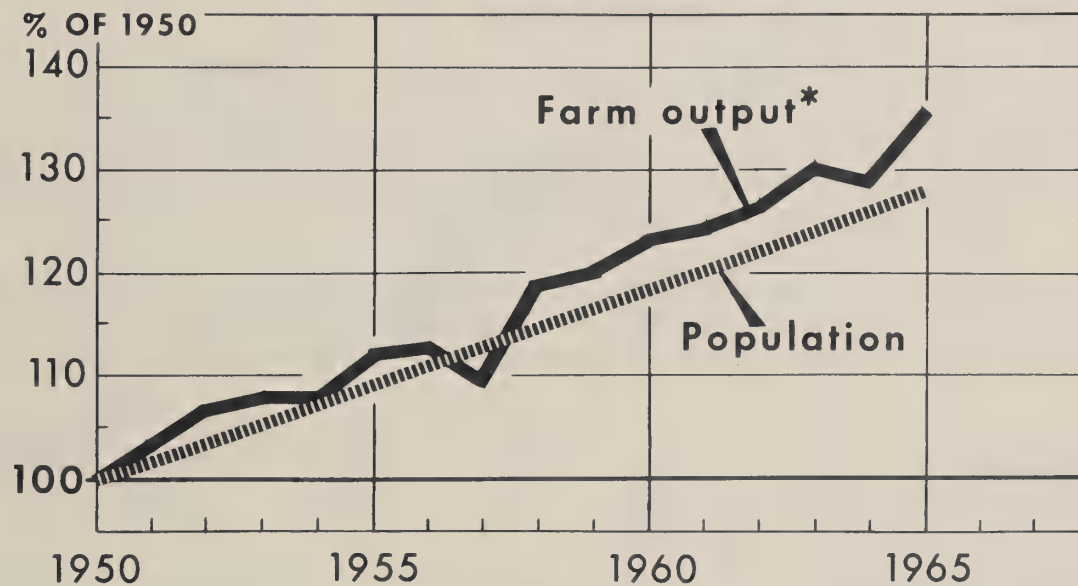
Dynamic changes in agricultural production occurred during the last 15 years. This period often has been described as a period of technological revolution in farming methods. Farm output increased at a rapid rate, while total production resources used by farmers increased only slightly.

Farm output in 1965 was a record high, 35 percent above the 1950 level. Over the entire period, only in 1957 and 1964, when unfavorable growing conditions occurred, did farm output fail to equal or exceed the volume of the previous year.

Domestic demand for farm products, as measured by changes in population, has not increased as rapidly as farm output. Population of the United States in 1965 was 28 percent greater than in 1950, compared to the 35-percent rise in farm output. The more rapid increase in farm output than in U. S. population made possible record exports of farm products in recent years, as well as ample supplies of food for U. S. consumers.



## FARM OUTPUT AND U.S. POPULATION



\* 1964 PRELIMINARY; 1965 INDICATED AS OF AUGUST

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## Crop and Livestock Production

The record 1965 farm output was due to a combination of a record crop production and a near record livestock production.

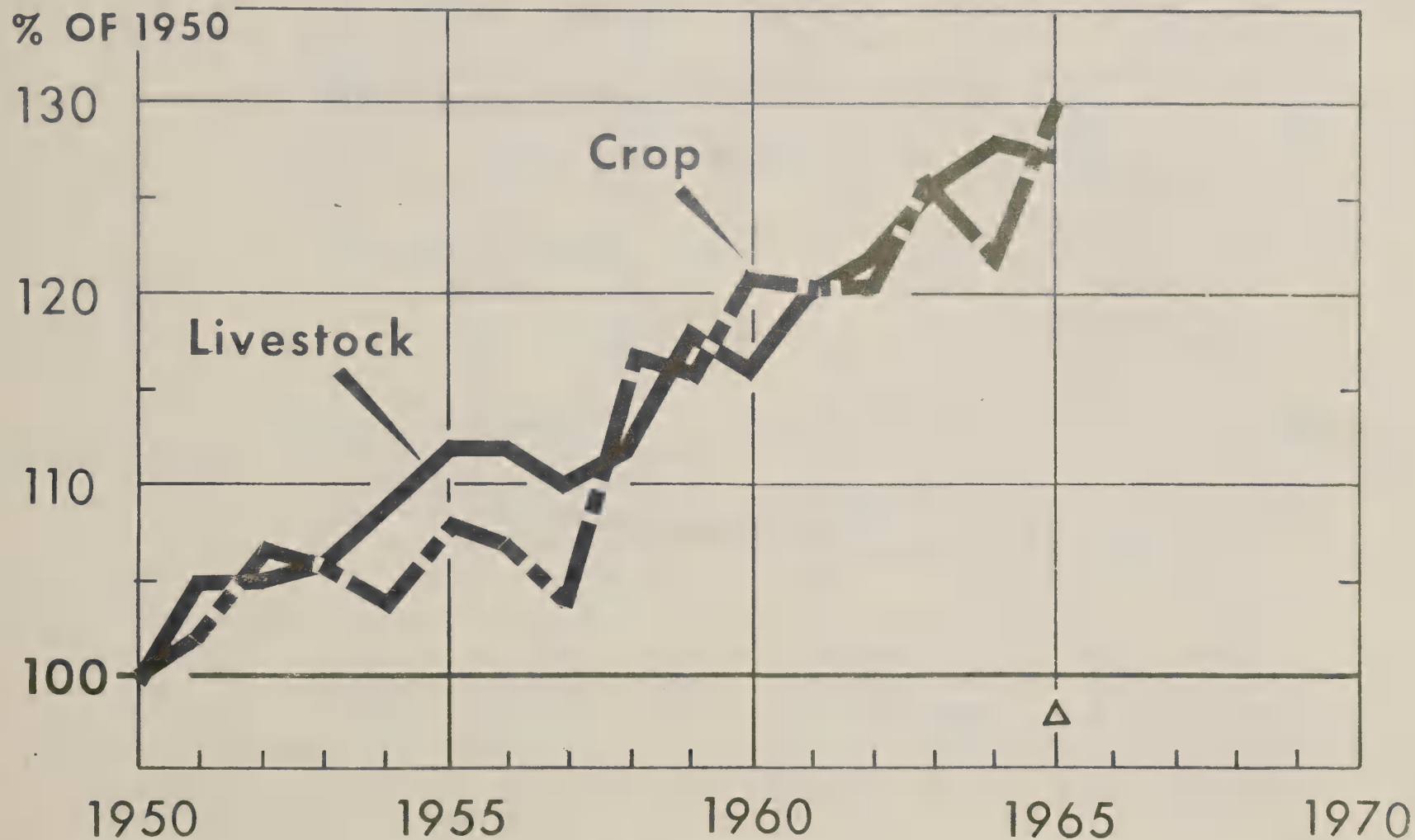
Livestock production in 1965 was 27 percent larger than in 1950 and 1 percent less than the record 1964 production. Meat animal production increased at about the same pace as total livestock output, while poultry and poultry products increased almost 40 percent, primarily due to a rise in broiler production. Dairy products increased by one-eighth.

About the same number of animal units of breeding livestock was on farms in 1965 as in 1950. However, production per breeding unit increased 29 percent. Examples of the trends in livestock productivity are as follows:

	<u>1950</u>	<u>1955</u>	<u>1960</u>	<u>1965</u>
Milk per cow (pounds)-----	5,314	5,842	7,002	8,080
Eggs per layer (number)-----	174	192	209	218
Pigs per spring litter (number) ----	6.31	6.90	6.96	7.22
Livestock production per breeding unit (percent of 1950) ---	100	108	122	129

These increases were made possible by use of improved feeds, better breeding stock, and by improving overall management.

# CROP AND LIVESTOCK PRODUCTION



△ PRELIMINARY.

### Crop Production Per Acre and Cropland Used for Crops

Total crop production increased 31 percent from 1950 to 1965 despite an 11-percent decrease in acreage of cropland used for crops. Except for 1962 and 1964, we used fewer acres for crop production in 1965 than in any year since 1910. However, these acres were the most productive of record. Most crops have increased yields at a rapid pace. Examples are:

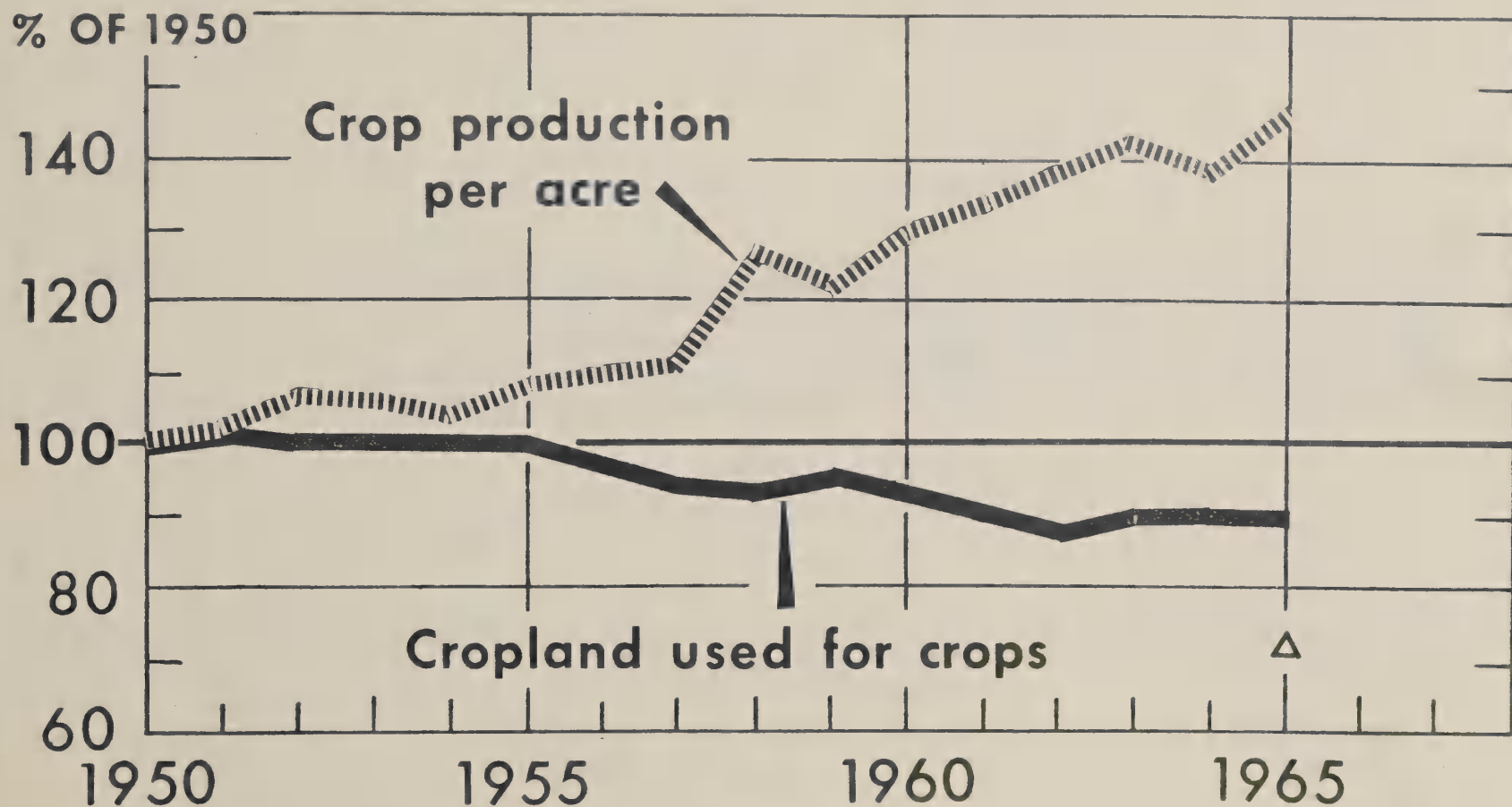
Crop production per acre	1950	1955	1960	1965
(index 1950=100)-----	100	108	130	148
Corn (bushels) -----	38.2	42.0	54.5	73.1
Wheat (bushels)-----	16.5	19.8	26.2	26.9
Sorghum (bushels)-----	22.6	18.8	39.8	50.0
Cotton lint (pounds)-----	269	417	446	531

Many factors have made these yields possible. They generally resulted from a bundle of improved farming practices -- increased use of fertilizer, improved seed varieties, and better weed control. Farmers used 2.8 million tons of elementary plant nutrients on their crops in 1950, but in 1964 they applied 8.1 million tons, an increase of 350 percent. Land selectivity also contributed to yield increases as farmers are now using 42 million fewer cropland acres than in 1950.

In the last 25 years, farmers have completely changed the varieties of corn, soybeans, and flaxseed used in production. Much research for new varieties of seeds is aimed at counteracting disease and insect infestation, but in many cases the new varieties also increase yields. For example, a decade ago grain sorghum seed was all open-pollinated; today most of the seed used is hybrid which increases yields 20 percent or more.



# CROP PRODUCTION PER ACRE AND CROPLAND USED FOR CROPS

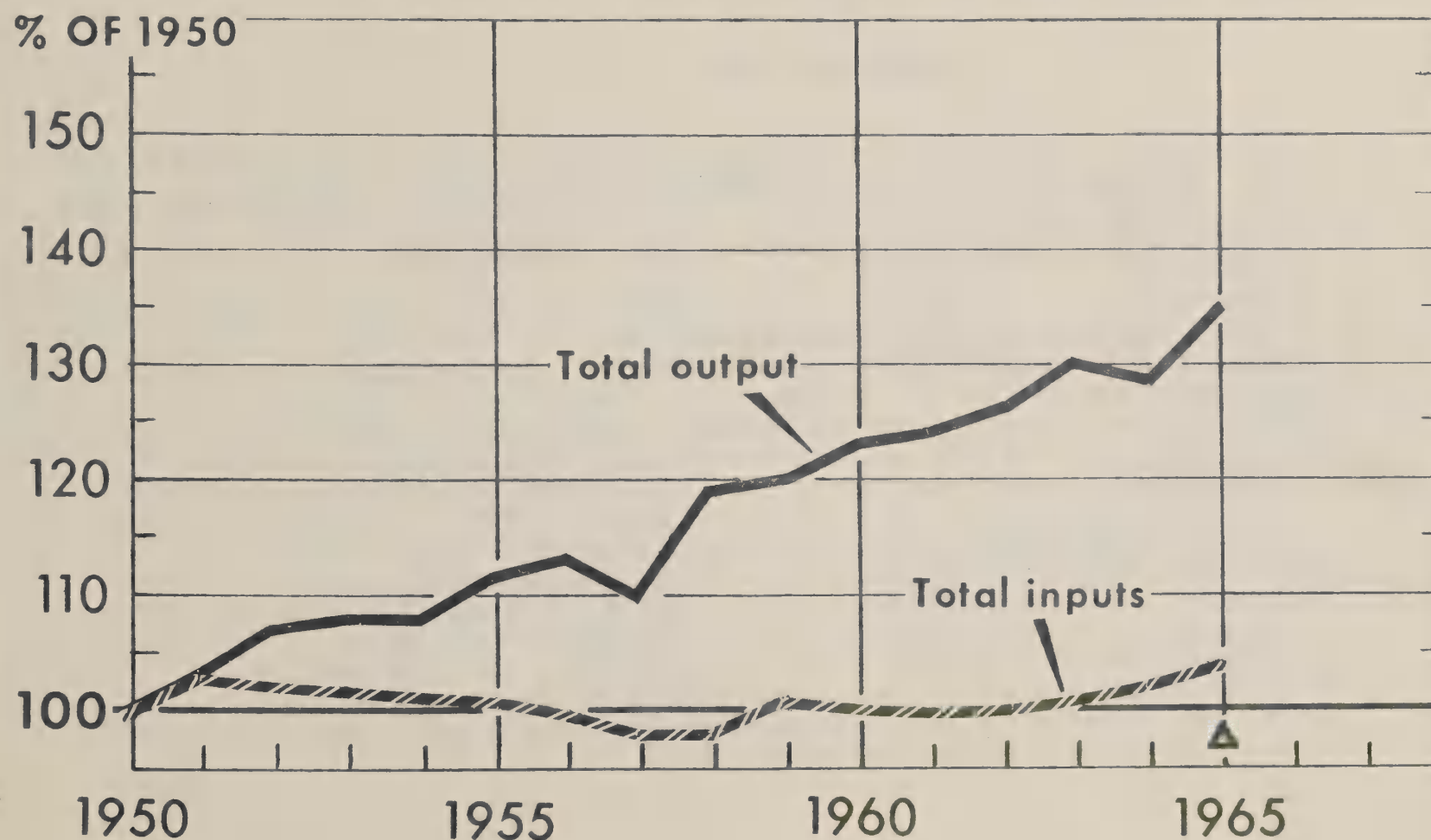


△ INDICATED AS OF AUGUST.

### Farm Output and Inputs

Total farm output in 1965 rose to a new record. However, total inputs used in production increased only 3 percent above the 1950 level. As a result, farm output per unit of input rose one-third (32 percent) from 1950 to 1965. Despite a small increase in total production inputs, there were marked changes in the kinds of resources used by farmers.

# FARM OUTPUT AND INPUTS



△ AS OF OCTOBER 1965.

## Inputs and Input Prices

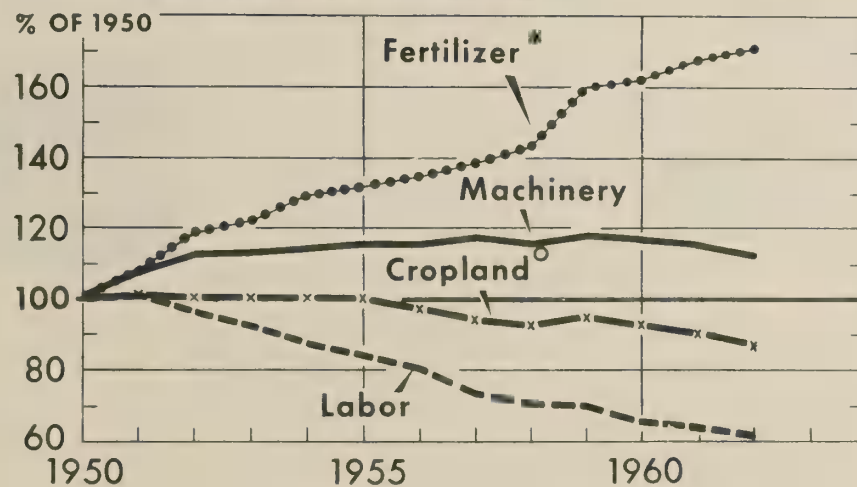
A major change in farm resources is the rapid decrease in labor used on farms. Total man-hours of farm labor decreased from 15.1 billion in 1950 to 8.3 billion in 1965, a drop of over 45 percent. The decrease in man-hours was about evenly divided between crop and livestock production.

The acreage of total cropland used for crops decreased 11 percent from 1950 to 1965. Inputs of labor and cropland were replaced by other inputs. Mechanical power and machinery increased 17 percent, and fertilizer and liming materials rose 150 percent. With these changes in the input mix, farmers are now much more dependent on nonfarm industries for their productive resources. In 1950, slightly over half of total inputs were non-farm inputs, but in 1965 they made up nearly 70 percent of total inputs.

The change in quantity of various inputs used is closely related to the prices farmers must pay. Fertilizer prices have remained about constant during the last decade. The relatively low price and the yield response from fertilizer use has encouraged farmers to increase their use of fertilizer. On the other hand, farm wage rates have risen 70 percent, thus encouraging the use of other inputs such as machinery. Machinery prices have increased 55 percent in the last decade and a half. Farm real estate prices more than doubled during the same period.



# **Use of Fertilizer and Farm Machinery Increasing; Labor and Cropland, Decreasing**



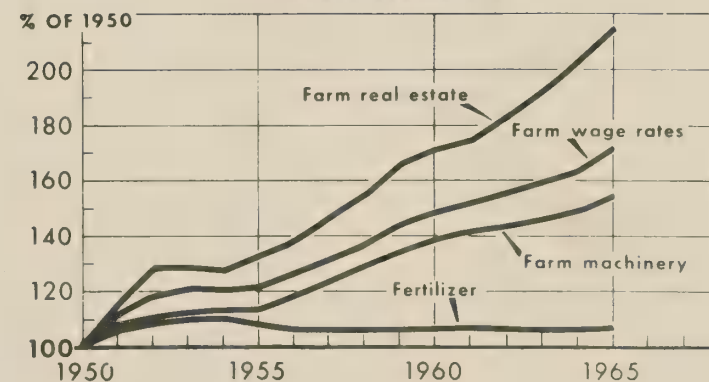
■ FERTILIZER AND LIMING MATERIALS.  
1961 AND 1962 DATA PRELIMINARY.

○ CROPLAND USED FOR CROPS.

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## **PRICES OF SELECTED FARM INPUTS**



1961 DATA PRELIMINARY

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## **Section 3**

# **AGRICULTURAL FINANCE**

### Value of Farm Assets

The financial condition of most farmers has continued to improve in recent years. During 1965 realized net farm incomes increased ~~more~~ than \$1 billion over the 1964 level, and further gains ~~are~~ in prospect in 1966. The value of farm assets probably exceeded \$250 billion at the beginning of 1966, reflecting ~~an~~ increase of \$15 billion during 1965, and about \$50 billion since January 1, 1960.

Farm debt, too, has increased sharply over recent years but will remain at levels well within the abilities of most farmers to meet repayments.

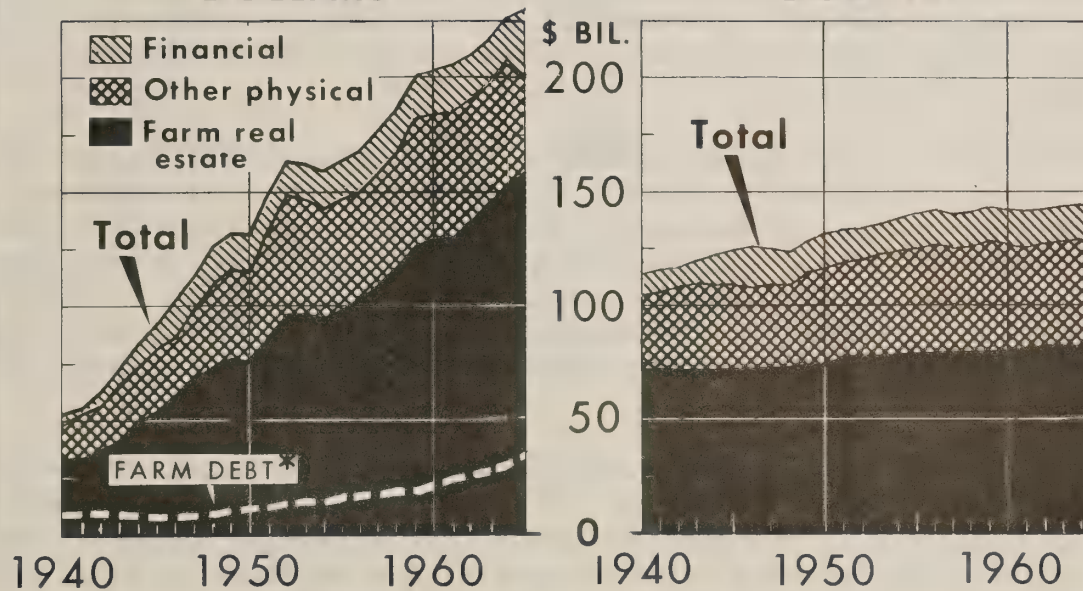
Much of the increase in farm asset values is the result of increased prices of farm real estate, and of ~~some~~ other physical assets. Only modest increases have occurred in the physical size of the total farm plant. Despite this, the productivity of the farm plant has risen dramatically.

The value of production assets per farm ~~was~~ \$17,000 in 1950, \$43,000 in 1960, and is estimated at \$65,000 today.

# VALUE OF FARM ASSETS

IN CURRENT  
DOLLARS

IN 1947-49  
DOLLARS



48-STATE DATA ARE AS OF JANUARY 1 EACH YEAR; 1960 DATA ARE PRELIMINARY. \*EXCLUDING CCC LOANS.

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### Farm Real Estate Values

In November 1965 the market value of farm real estate was estimated at \$152 per acre, 45 percent above the 1957-59 average and 6 percent above November 1964. The annual rate of increase for the United States has been 6 to 7 percent over the past seven years.

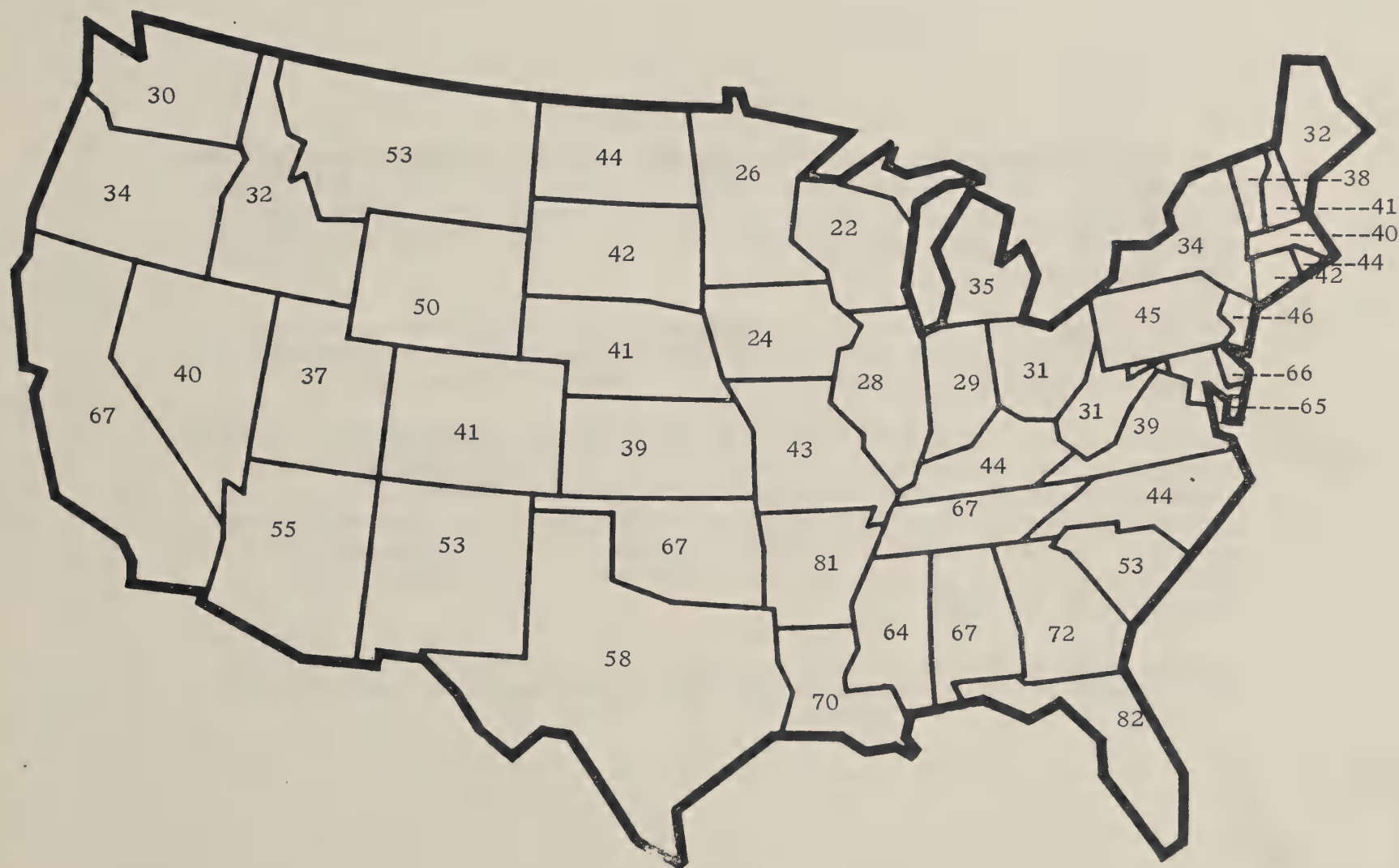
Increases shown by individual States ranged widely--from 22 percent in Wisconsin to 82 percent in Florida. In general, the Corn Belt and Lake States regions had the least rapid increases. Increases have been most rapid in the Southeast and Delta States.

Factors contributing to the marked upward trend in land values include the continuing strong demand for land for farm enlargement, a declining number of tracts of farmland coming on the market, and in some areas competition for farmland for nonfarm uses. With the many years of rising land prices, many persons now consider farmland a good investment. Nationally, farm enlargement buyers accounted for 54 percent of the purchases in 1965. The proportion was highest in the Northern Plains region where such purchases represented 75 percent of all purchases.

On the supply side, the rate of voluntary transfers of farm real estate has declined from 34 per thousand farms in 1958 to 28 per thousand farms in 1965, a decline of 17 percent in the last 8 years. The decline in the total number of transfers has been even more rapid because of the decrease in total number of farms.

Credit has become an increasingly important factor in the land market with the proportion of credit sales increasing from 67 percent in 1958 to 73 percent in 1965.

Increase in Average Value of Farm Real Estate Per Acre  
(Percent, 1957-59 Average to November 1965)



U. S. - 45%

### Farm Debt

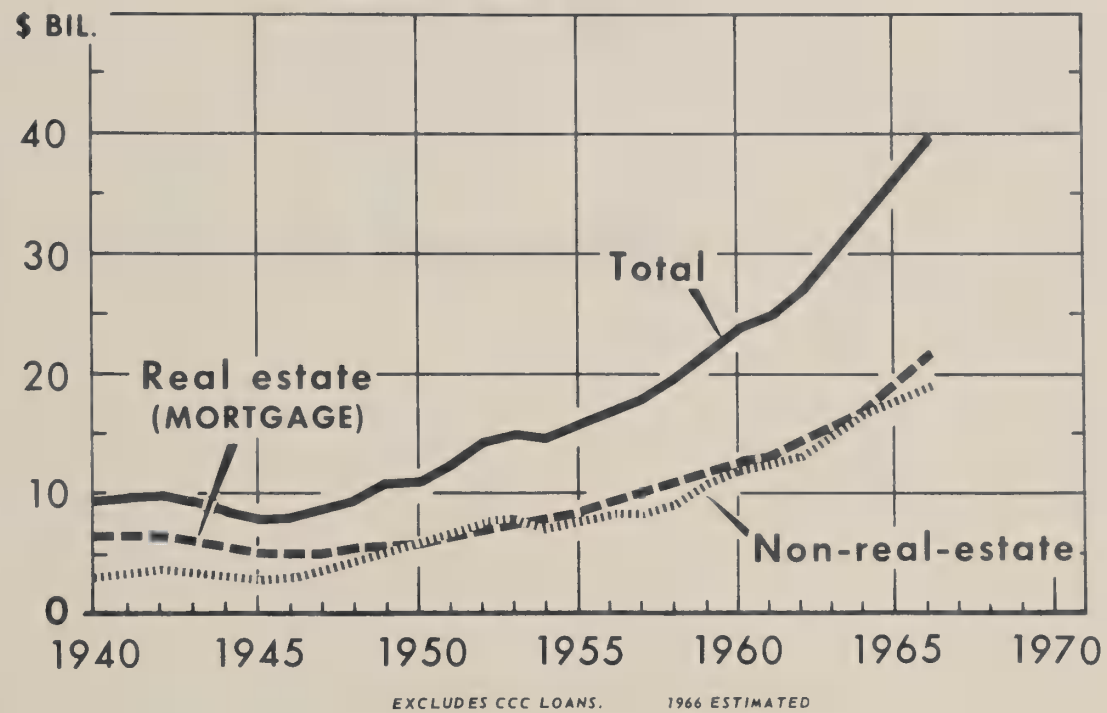
Farm debt (excluding CCC loans) reached \$39 billion on January 1 of this year, an increase of \$3.5 billion, or 10 percent, during 1965, and of \$16 billion, or 65 percent, since 1960. Farm debt has increased slightly more rapidly in recent years than farm asset values. Debt has increased much more rapidly than farm income.

The increasing size of farm debt relative to farm income has caused some people to wonder whether farmers have been using credit as a substitute for income, and whether the present farm debt structure can be supported.

The rapid growth of farm debt since World War II has resulted mainly from the enlargement and improvement of farms, and from the increased investments necessary to stock, equip, and operate enlarged units which provide more adequate incomes to farm families. The credit needed for farm enlargement has added to such other credit needs of farmers as financing replacement of wornout or obsolete capital equipment, and transferring property from one generation to the next.

Despite large increases in borrowing by farmers, foreclosures are negligible and the rate of delinquencies on farm debt have remained at nominal levels.

## FARM DEBT



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## **Section 4**

# **PRICES AND FARM INCOME**



### Farmers' Prices

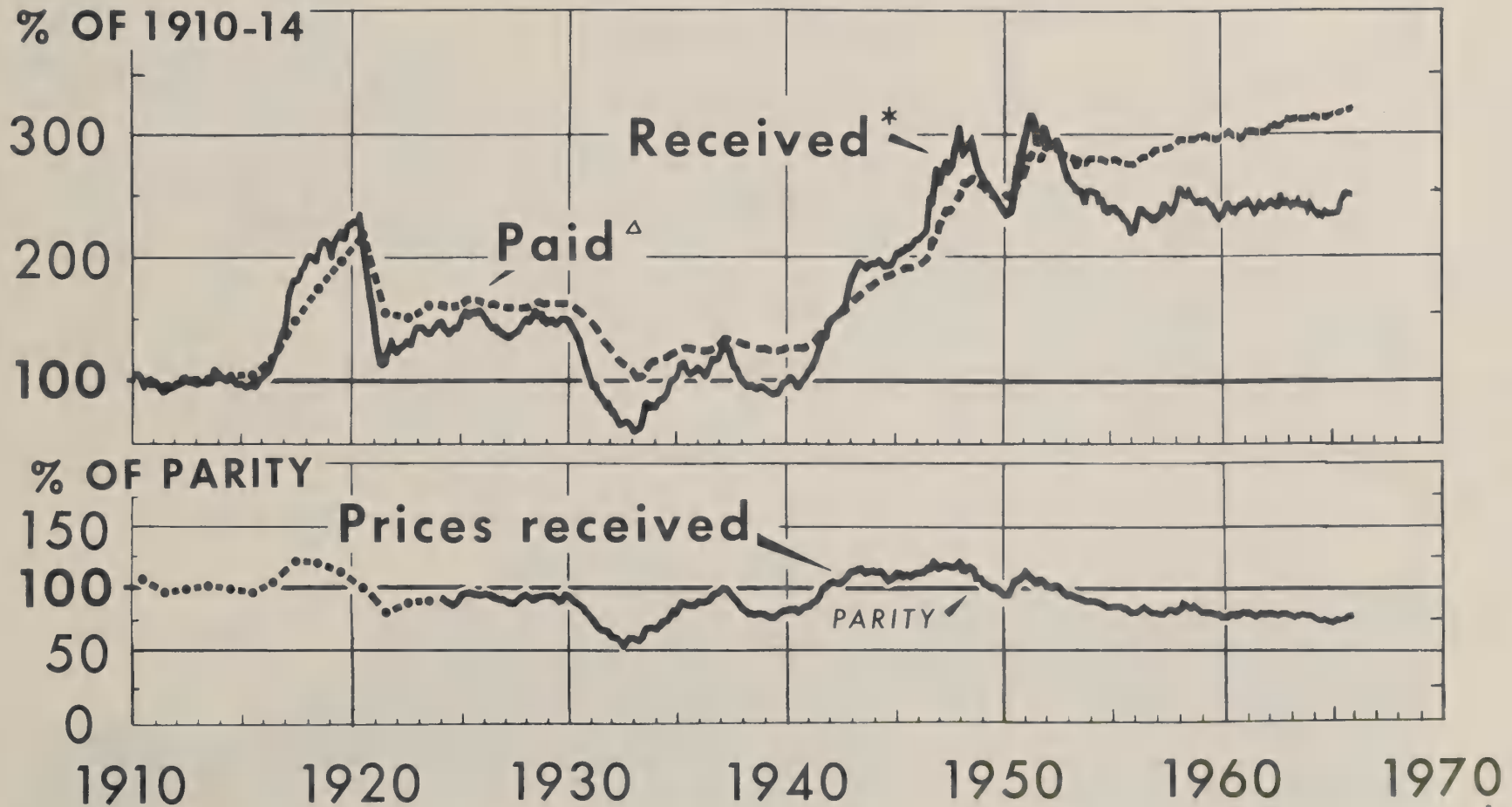
The index of prices received by farmers in 1965 averaged 248 (1910-14=100), 5 percent higher than in 1964 and the highest since 1958. Prices received for livestock and products at 261 were up 11 percent from a year earlier. Prices received for crops at 232 were 2-1/2 percent lower than 1964. However, much of the decline in prices of crops was offset by increased direct payments.

In 1965, prices received in general were near the upper end of the relatively narrow range of 230-250 that has prevailed since the mid-fifties.

The parity index (prices paid by farmers including interest, taxes, and farm wage rates) averaged 321 in 1965, the highest of record. Prices, interest, taxes, and wages all were up from a year earlier. 1965 marked the 10th successive year that the parity index has increased.

With prices received by farmers increasing more than the parity index, the parity ratio increased slightly to 77 percent from the 76 percent of 1964. Adjusting the ratio for direct Government payments to farmers raises the parity ratio to 82 in 1965 compared with 80 in 1964.

# FARMERS' PRICES



\* MONTHLY DATA.  $\Delta$  INCLUDES INTEREST, TAXES, AND WAGE RATES. ANNUAL AV. DATA, 1910 - 23;  
 BY QUARTERS 1924 - 36, BY MONTHS, 1937 TO DATE.

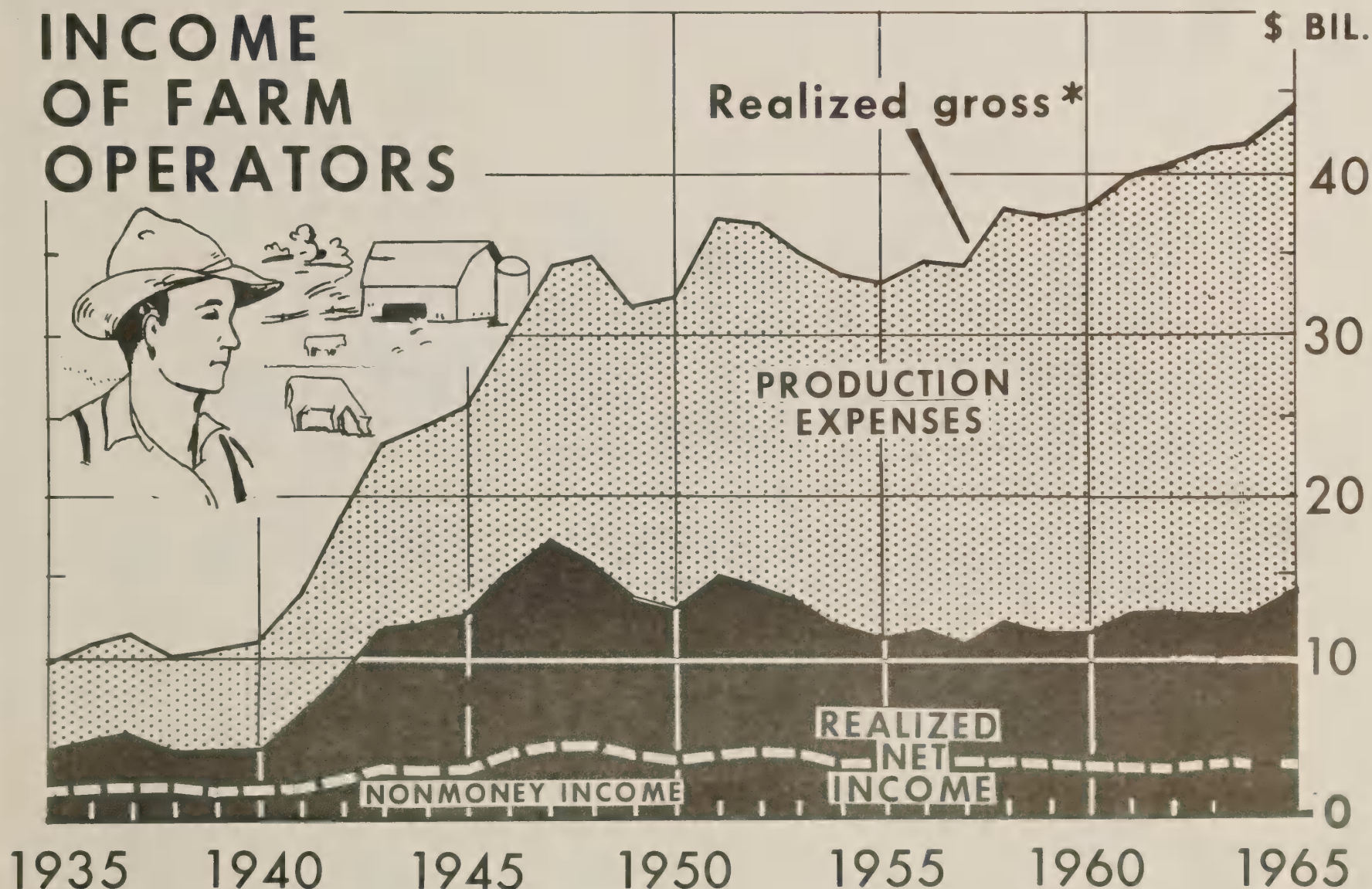
### Income of Farm Operators

Realized net farm income of farm operators reached a record high in 1947. It then trended downward in the 1950's, particularly after the Korean War. But in recent years it has been stable or rising. The \$14.1 billion net income realized by farm operators in 1965, for family living and investment after allowing for production expenses, is about the same as in 1952 and the highest since 1951. Realized net farm income in 1965 is some 9 percent higher than a year earlier, and about 20 percent above that of 1960.

Realized gross farm income in 1965 is estimated at about \$44.4 billion, a record high. This level for 1965 is \$2 billion higher than in 1964 and \$6-1/2 billion higher than in 1960. Realized gross farm income, which was close to \$26 billion in 1945 moved up in 1947-48 and during the Korean War. During most of the 1950's it showed little change except for 1958 when bumper crops and favorable farm prices resulted in a sizable boost in gross farm income realized from farming.

Over the postwar period, farm production expenses have risen almost without interruption. For 1965, these expenses are estimated at over \$30 billion compared with \$13 billion in 1945. The persistent rise in prices paid by farmers for production items, interest, taxes and wage rates and an increase in the quantity of goods purchased have contributed to the sharp rise in farm production expenses in the postwar period. Farm operators in recent years have been spending about 70 percent of their realized gross farm income for business expenses compared with about 50 percent in 1945-47.

# INCOME OF FARM OPERATORS

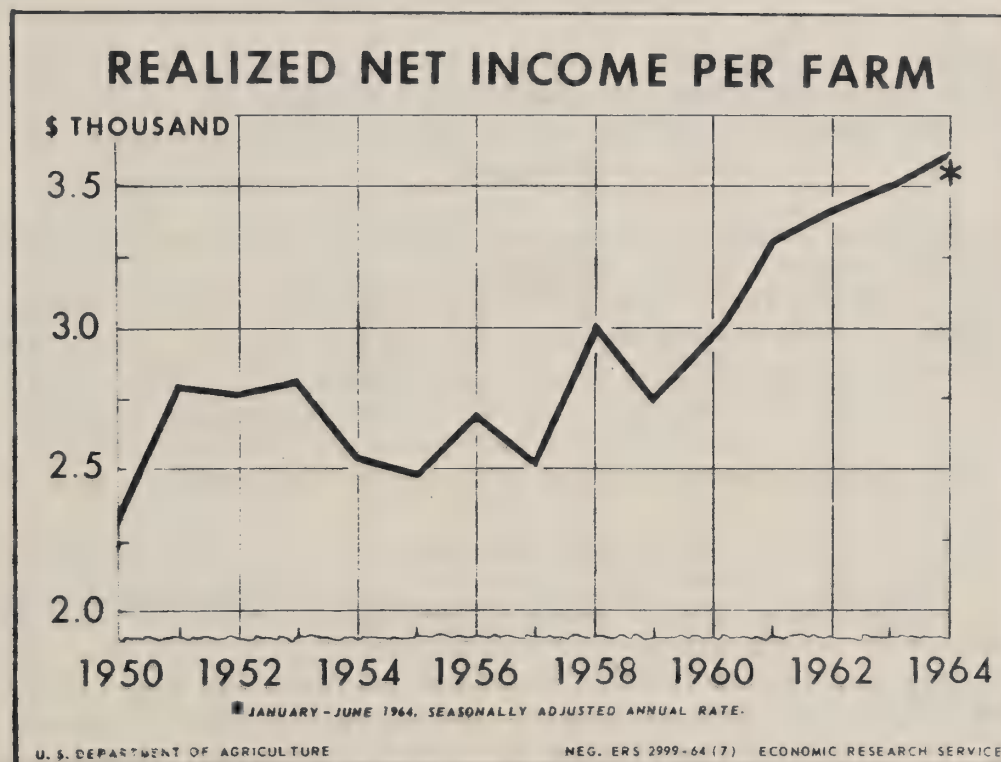


\*EXCLUDING INVENTORY CHANGE; INCLUDING GOVERNMENT PAYMENTS  
1965 PRELIMINARY.

### Realized Net Income Per Farm

Farm operators' realized net farm income per farm has moved up sharply in recent years, after staying within a fairly narrow range during most of the 1950's. For 1965, realized net farm income per farm is estimated at close to \$4,200, an increase of some 40 percent over the \$2,956 per farm for 1960.

In 1945-46 there were about 6 million farms in the U.S. with an average realized net income per farm of around \$2,337. Realized net income per farm stayed under \$3,000 during the late 1940's and throughout the 1950's, despite the fact that farm numbers had declined to around 4 million by 1960. The dramatic increase in realized net farm income per farm since 1960 resulted from a strengthened farm income situation and a further decline in farm numbers. Aggregate realized net farm income was some \$2.4 billion higher in 1965 than in 1960 but the number of farms was down almost 600,000 over the period.



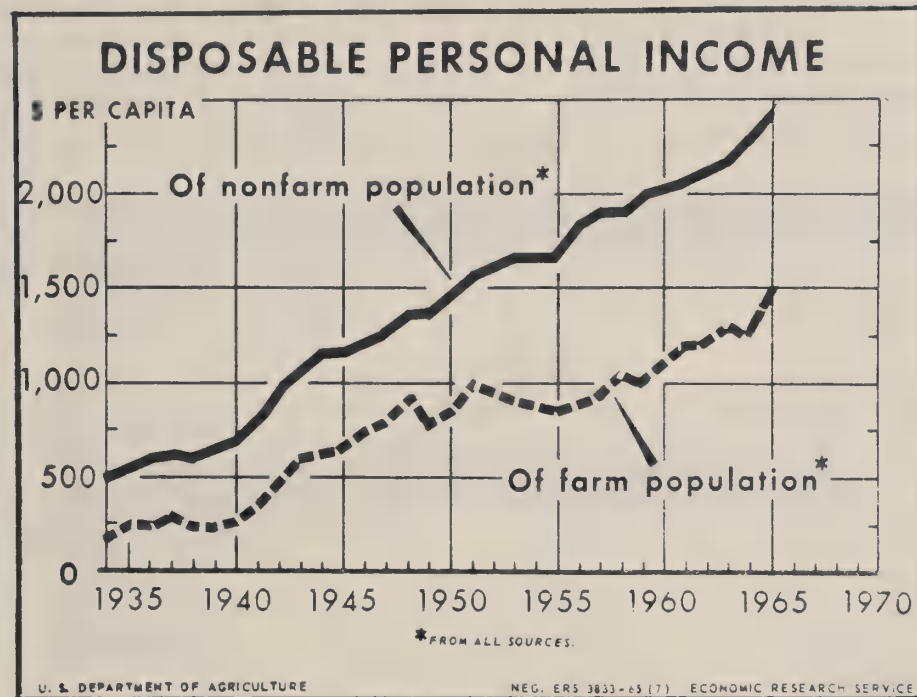


### Disposable Personal Income

The disposable personal income per capita of the farm and nonfarm population has generally trended upward over the postwar period. The movement in the series on the income of the farm population has fluctuated more than that of the nonfarm population.

The disposable personal income per capita of the farm population from all sources was around \$800 in the immediate postwar period. It moved up rather sharply during the Korean War and, despite a decline in farm population, it showed little upward movement during the 1950's. Since 1960, with the farm population declining further and farm income either stable or rising, it has moved up sharply. For 1965, the disposable personal income per capita of the farm population is estimated at just over \$1,500, up 35 percent from 1960 and about double the level of 1946-47.

The disposable personal income per capita of the farm population in 1965 is estimated to be about 63 percent of the average for the nonfarm population. This compares with about 55 percent in 1960, as the farm population has gained relatively more in income per capita than the nonfarm population over the last 5 years. For both the farm and the nonfarm population, the disposable personal income per capita in 1965 is record high reflecting the favorable farm income situation last year, the continuing decline in the farm population, and the continuing expansion in the general economy.



## Farms and Farm Income

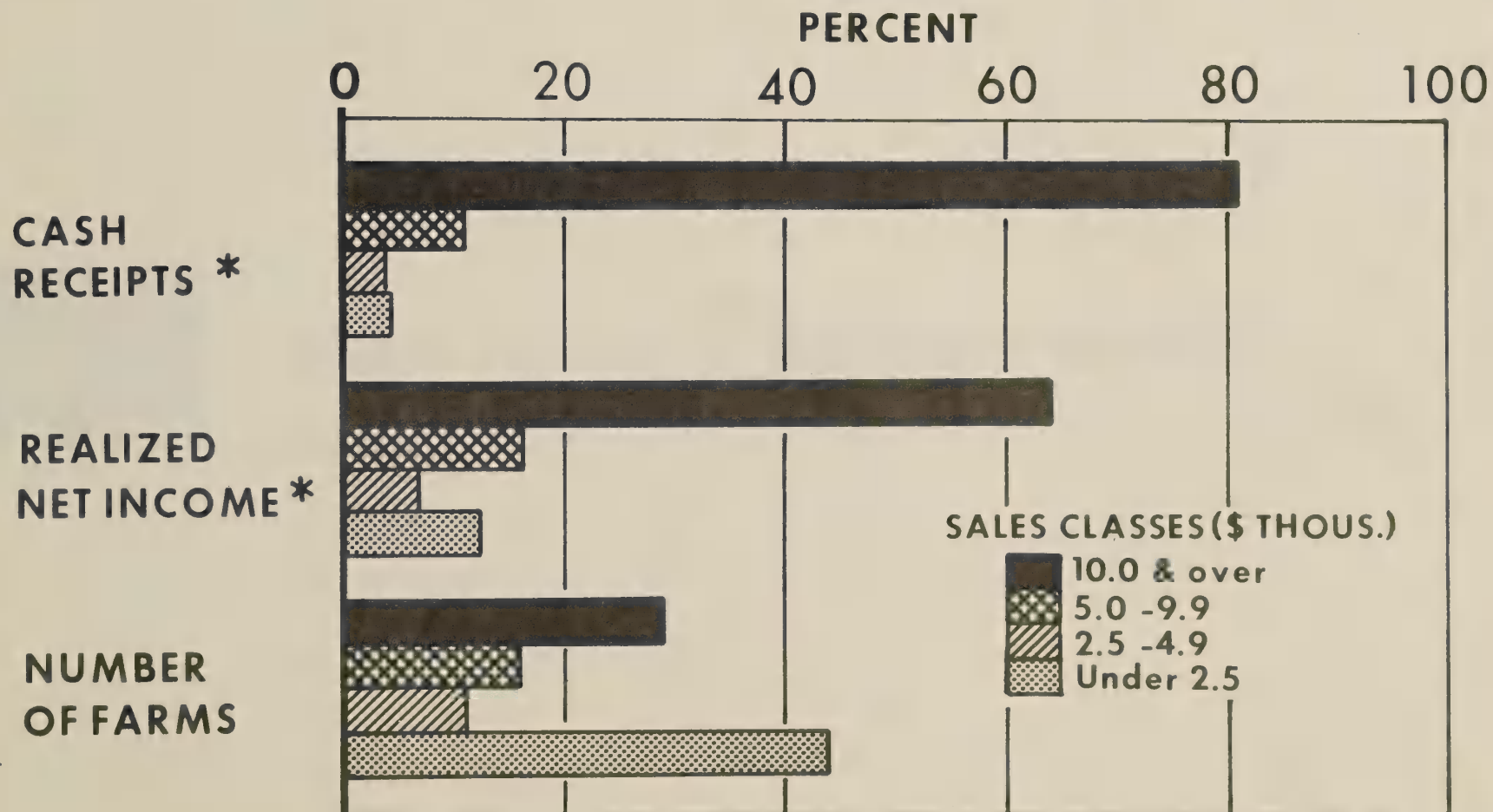
There are significant differences among farms by value of sales classes. Farms with value of sales of \$10,000 or more make up the expanding sector of agriculture and are increasing in number and in percentage of income. In 1959 there were 828,000 of these farms and they accounted for 20 percent of all farms. By 1964, the number had increased to 1,010,000 and the percentage to 29. The share of cash income accruing to these high-production farms increased from 71 percent in 1959 to 81 percent in 1964 and the share of realized net income went from 50 to 64 percent.

In contrast, low-production farms--with value of sales of less than \$10,000--are the contracting sector of farming. They are declining in number and in share of cash receipts and net income. Income of farm operator families by major source and value of sales classes are as follows for 1959 and 1964.

Sales class and year	Realized net farm income	Off-farm income	Total income including nonmoney income from farm food and housing
Farms with sales of:	Dollar	Dollar	Dollar
All farms			
1959	2,773	2,071	4,844
1964	3,727	2,439	6,166
\$20,000 and over			
1959	8,862	1,914	10,776
1964	10,835	2,133	12,968
\$10,000--\$19,999			
1959	5,601	1,322	6,923
1964	6,262	1,483	7,745
\$2,500--\$9,999			
1959	2,786	1,672	4,458
1964	3,182	1,870	5,052
Less than \$2,500			
1959	995	2,573	3,568
1964	1,069	3,238	4,307

# FARMS AND FARM INCOME, 1964

*Percentage Distribution by Sales Classes*



\* INCLUDING DIRECT GOVERNMENT PAYMENTS.





## **Section 5**

# **DEMAND FOR FARM PRODUCTS AND MARKETING**

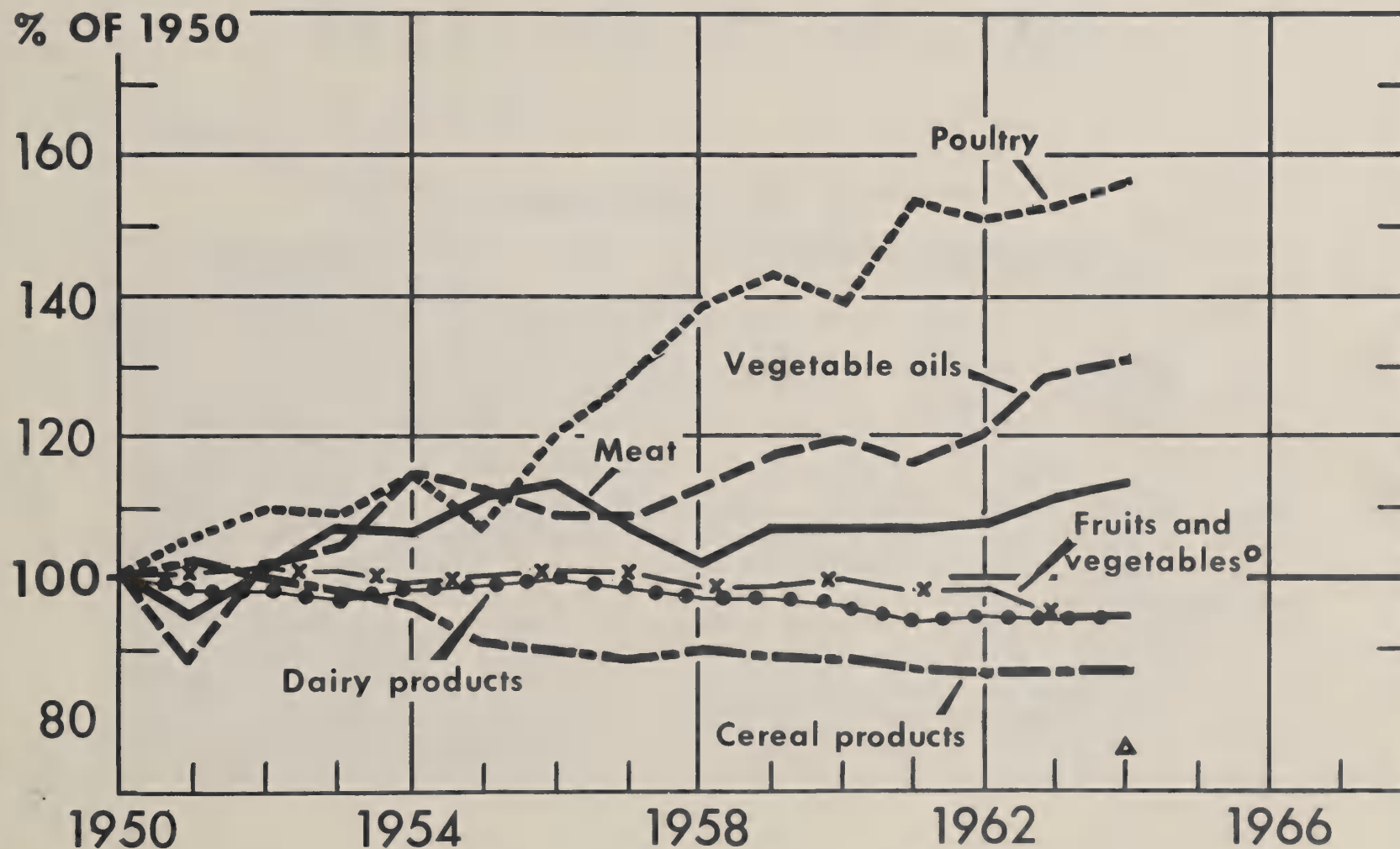
### Food Consumption Per Capita

The index of food consumption per capita has increased only 2 percent since 1950. Though this increase is small, sizable shifts in consumption among individual foods has occurred.

Consumption of animal products has increased about 4 percent, while consumption of food from crops has remained about stable. Large increases have taken place for such foods as beef and poultry, but decreases have occurred for dairy and cereal products. Per capita consumption of fruits and vegetables has remained about stable in total; increases for processed fruits and vegetables have about offset decreases for fresh fruits, vegetables, and melons. For potatoes, per capita consumption of canned and frozen items has more than offset the decline in fresh use since the mid-1950's. Per capita consumption of fats and oils has remained about stable in postwar years; increased use of vegetable oils has offset decreased use of animal fats. The long time decline in cereal product consumption has tended to level out in recent years.

The 2-percent increase in per capita food consumption since 1950 is small compared with the 33-percent increase that has occurred in real disposable income per capita. At current income levels in the United States, further increases in income do not bring comparable increases in food consumption.

# FOOD CONSUMPTION PER CAPITA



ITEMS COMBINED IN TERMS OF CONSTANT RETAIL PRICES.

△ PRELIMINARY.

● EXCLUDES MELONS, SOUP, AND BABY FOODS.

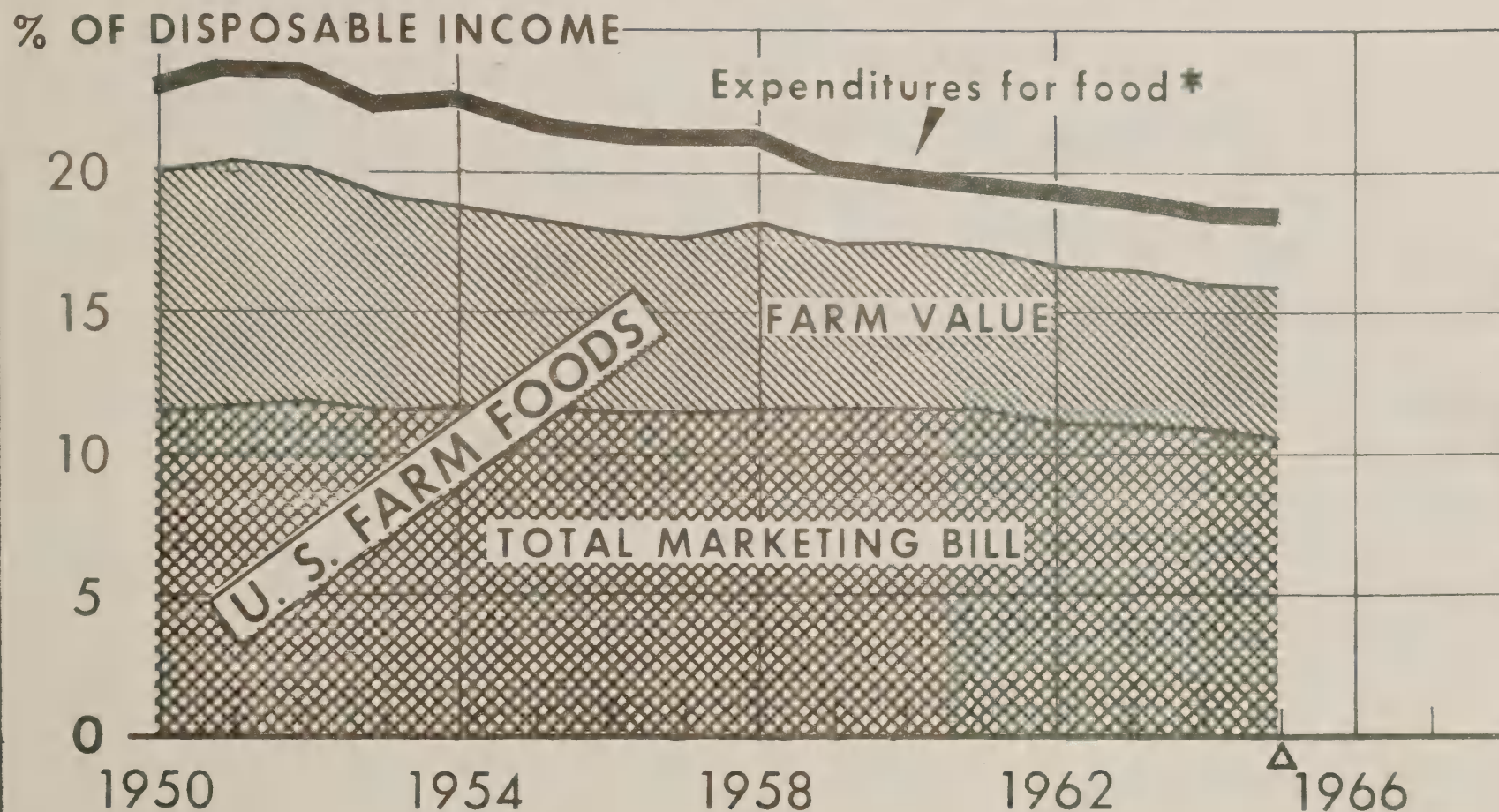
### Food Expenditures Relative to Income

Total food expenditures, excluding alcoholic beverages, have increased around 80 percent since 1950, while disposable income has risen around 125 percent. Increases in population and prices have accounted for most of this increase.

Since disposable income has gone up faster than food expenditures, the percentage of income spent for food declined from about 22 percent in 1950 to 18-1/2 percent in 1965. The percentage has been declining rather consistently since 1950.

Expenditures for foods originating on U.S. farms can be divided between the farm value and the total cost of marketing this food. Although both the farm value and the marketing bill have increased in terms of dollars, the marketing bill has increased at almost the same rate as disposable income since 1950, while the total farm value has increased at a much slower rate. Accordingly, the percentage of income going to agencies marketing U.S. farm foods declined only slightly--from 11.5 percent in 1950 to 10.5 percent in 1965. At the same time, the percentage going to U.S. farmers declined from 8.5 percent to 5.5 percent.

# FOOD EXPENDITURES RELATIVE TO INCOME



\*PERSONAL CONSUMPTION EXPENDITURES FOR FOOD, LESS ALCOHOLIC BEVERAGES (INCLUDES IMPORTED FOODS, SEAFOODS, HOME-PRODUCED FOOD, AND FOOD FURNISHED TO MILITARY FORCES).  $\Delta$ PRELIMINARY ESTIMATES.



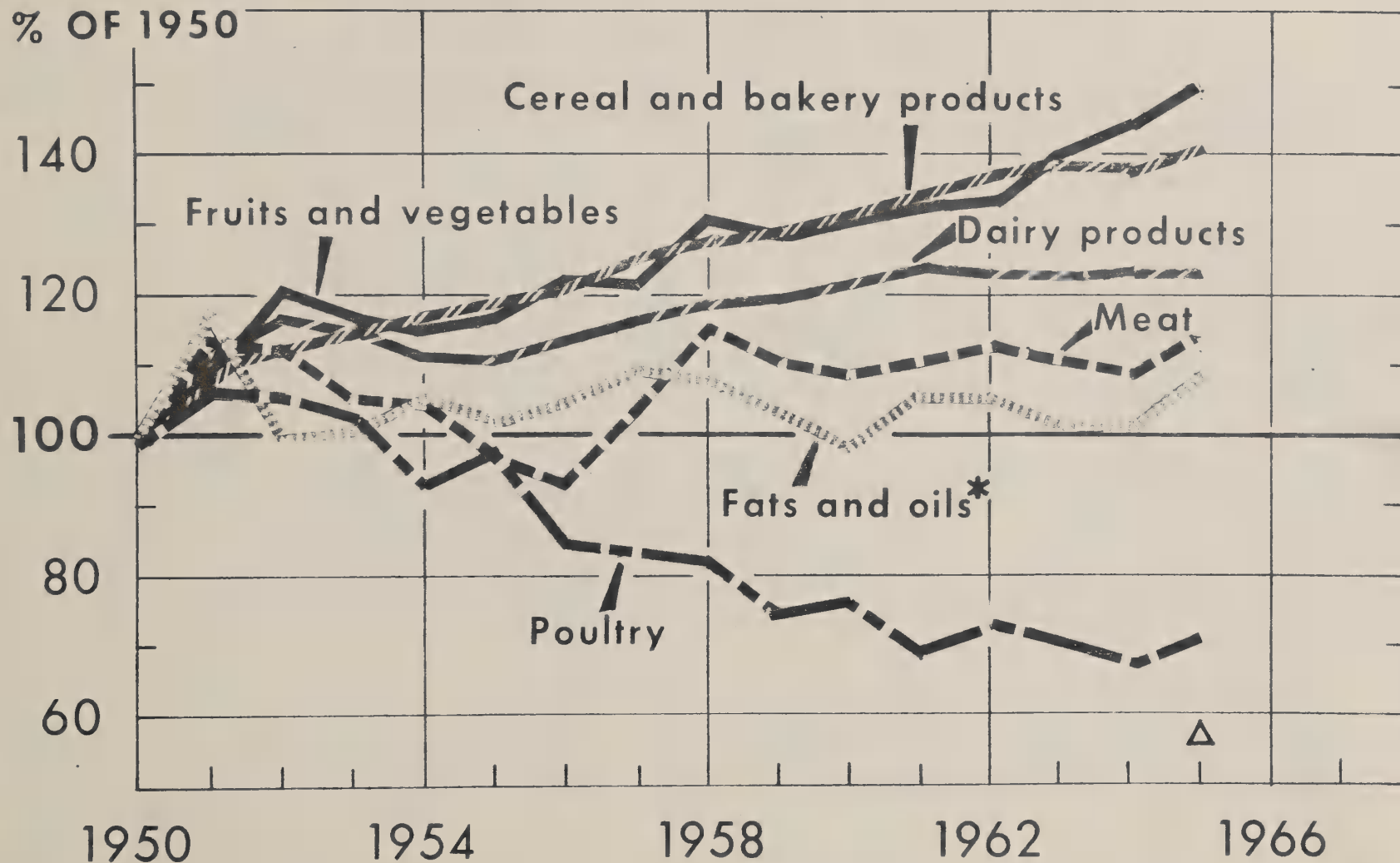
### Retail Food Prices

Retail food prices have increased about 27 percent since 1950, with more than a third of this increase occurring between 1950 and 1951. The advance has been more rapid for restaurant food than that purchased in grocery stores.

Not all foods have experienced increases in retail prices since 1950. Prices for poultry meat have declined about a third, partly as a result of the large increase in supplies. The food groups that have experienced the largest increase at retail are fruits and vegetables and cereal and bakery products. Price increases have been particularly large for fresh fruits and vegetables. Meat prices increased substantially during 1965 as a result of reduced supplies, but the increase since 1950 has been less than the all-food average.

Between 1964 and 1965 retail food prices increased a little more than 2 percent--about twice the average annual increase during the past 5 years.

# RETAIL FOOD PRICES



BASED ON DATA OF BUREAU OF LABOR STATISTICS.

\* EXCLUDES BUTTER.

△ JANUARY-AUGUST.

### Carryover Stocks

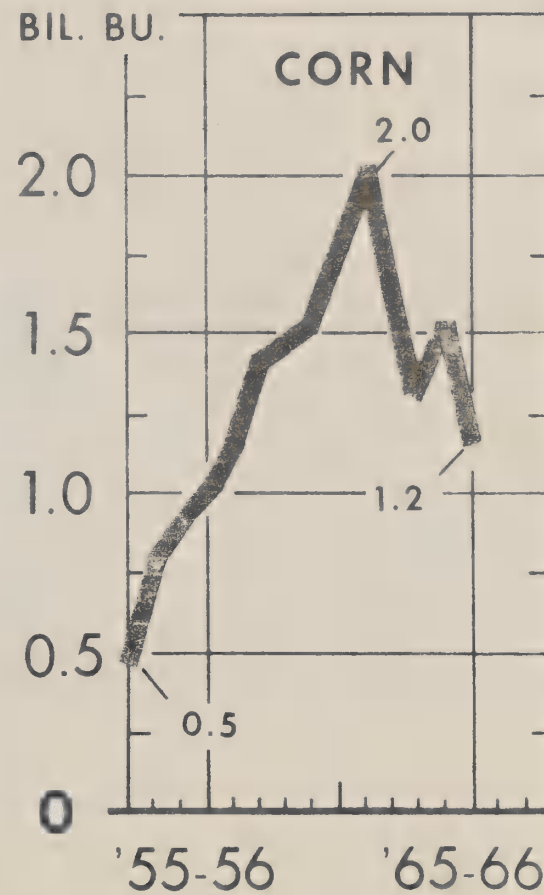
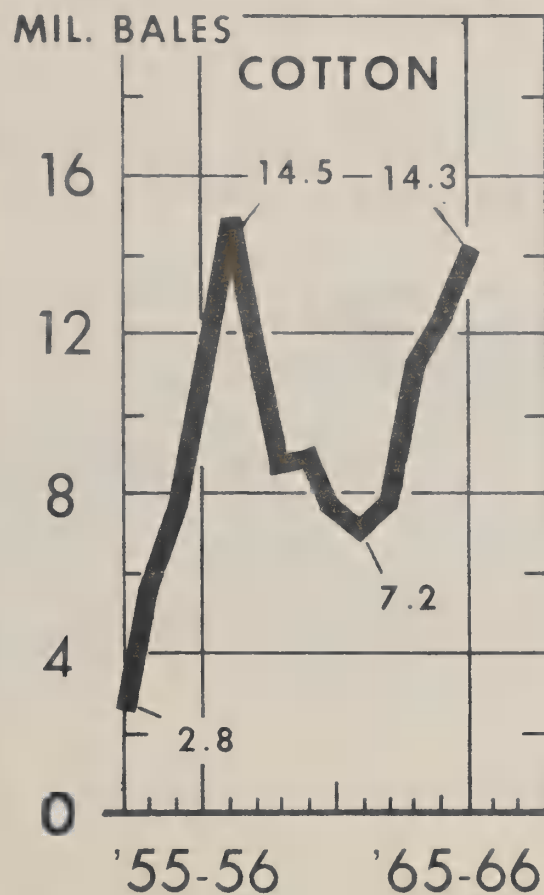
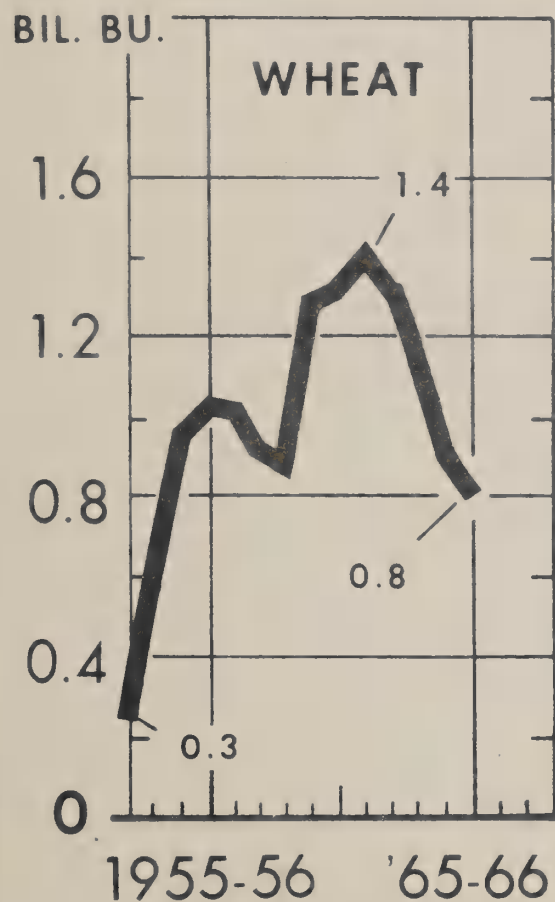
Carryover stocks of grains have been reduced materially in recent years. Limitations on wheat output and expanded utilization, particularly for export and domestic feed use, reduced the wheat carryover from around 1,400 million bushels in 1961 to 819 million bushels in the year beginning July 1, 1965. A further reduction is indicated for the 1965-66 marketing year.

The carryover of feed grains was reduced from nearly 85 million tons in 1961 to about 55 million in 1965. During the same period, the corn carryover declined from about 2.0 billion bushels to a little under 1.2 billion. The feed grain supply for 1965-66 is now estimated at 216 million tons, 9 million more than a year earlier but about 6 million below the 1959-63 average. With larger domestic use and exports in prospect, most of last year's record crop is expected to be consumed.

In contrast, cotton production continues to exceed utilization. Stocks of cotton rose by nearly 2 million bales from August 1964 to August 1965 reaching a total of 14 million. Domestic production plus small imports for the current crop year is expected to exceed disappearance by nearly 2.0 million bales. This would mean a carryover of all kinds of cotton on August 1, 1966 of about 16 million bales, or approximately 1.5 million bales above the previous record high of 14.5 million in 1956.

Carryover stocks of dairy products have been reduced since the 1962 peak by increased program utilization. At the end of 1965, dairy stocks, on a milk equivalent basis, were about 4.6 billion pounds, down 14 percent from a year earlier, with only 0.7 in Government holdings. Milk marketed in 1966 is expected to be about 2 billion pounds under the 1965 level.

# CARRYOVER OF MAJOR FARM COMMODITIES



CROP YEARS BEGINNING: WHEAT, JULY 1; COTTON, AUGUST 1; CORN, OCTOBER 1.  
1964 PRELIMINARY, 1965 PRELIMINARY ESTIMATE.

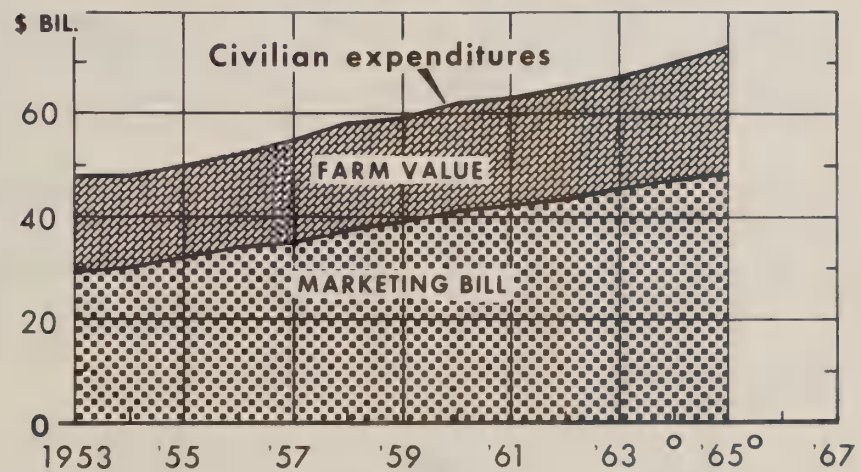
### Farm Value and Total Marketing Bill for Farm Foods

The food marketing bill totaled \$48.2 billion in 1965, up 50 percent from 1955. During the last 10 years, the marketing bill and consumer expenditures rose each year; however, farmer's receipts for these food products dropped in 1955, 1959, and 1963. They varied from \$18.3 billion in 1955 to \$24.5 billion in 1965.

The volume of farm products marketed expanded 29 percent from 1955 to 1965. In addition, marketing services per unit of product increased and costs of performing marketing services rose.

The marketing bill includes all charges for marketing food products originating on American farms and sold to civilian consumers in this country. Food sold in restaurants and other eating places and that sold at less than retail prices is valued at the point of sale.

## FARM VALUE AND TOTAL MARKETING BILL FOR FARM FOODS



DOMESTIC FARM FOODS BOUGHT BY CIVILIANS IN THE UNITED STATES. ○ PRELIMINARY.

U. S. DEPARTMENT OF AGRICULTURE

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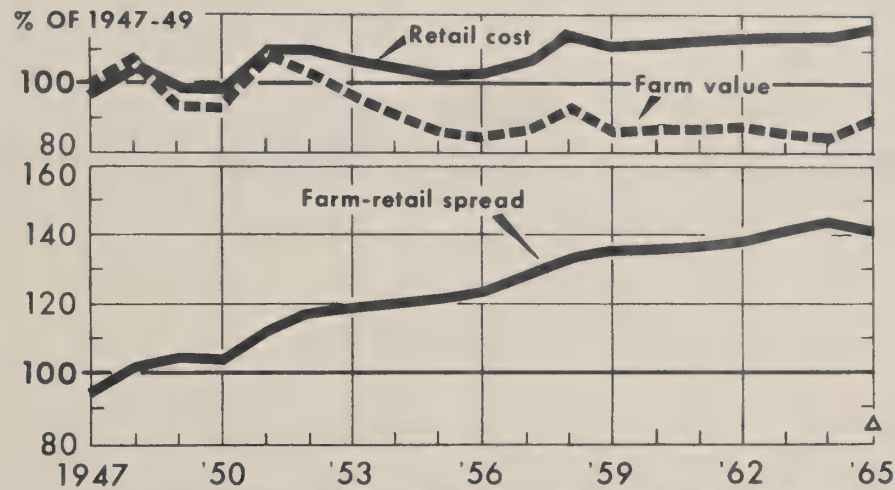
### Retail Cost for Market Basket, Farm Value, and Spread

The Farm-Food Market Basket contains the average quantities of farm-originated foods purchased annually in 1960-61 per household by urban wage earner and clerical-worker families and single worker living alone. It does not include imported foods or other foods not originating on American farms. The foods in the market basket are valued at retail store prices.

Retail prices of food products originating on American farms have been climbing slowly much of the time since World War II. In 1965, prices farmers received for food products increased slightly and marketing charges decreased. The farm value, however, was still 8 percent lower than in the early postwar period, and marketing charges were up 41 percent. Retail prices of farm-originated food averaged 17 percent higher in 1965 than in 1947-49.

The farmer's share of the consumer's dollar was 39 cents in 1965, up from 37 cents in 1963-64, compared with a record high of 53 cents in 1945.

## RETAIL COST FOR MARKET BASKET, FARM VALUE, AND SPREAD



ANNUAL PURCHASES OF FARM FOODS PER HOUSEHOLD IN 1960-61 BY URBAN WAGE-EARNER  
AND CLERICAL-WORKER FAMILIES AND SINGLE WORKERS LIVING ALONE.

▲ FIRST 8 MONTHS.

U. S. DEPARTMENT OF AGRICULTURE

NEG. ERS 2638X-65 (7) ECONOMIC RESEARCH SERVICE

RETAIL COST FOR MARKET BASKET

MARKET BASKET DATA AND ANALYSIS

MARKET BASKET DATA AND ANALYSIS

MARKET BASKET DATA AND ANALYSIS

MARKET BASKET DATA AND ANALYSIS

MARKET BASKET DATA AND ANALYSIS

## **Section 6**

# **FOREIGN MARKETS FOR U.S. FARM PRODUCTS**

### U.S. Foreign Trade in Agricultural Products

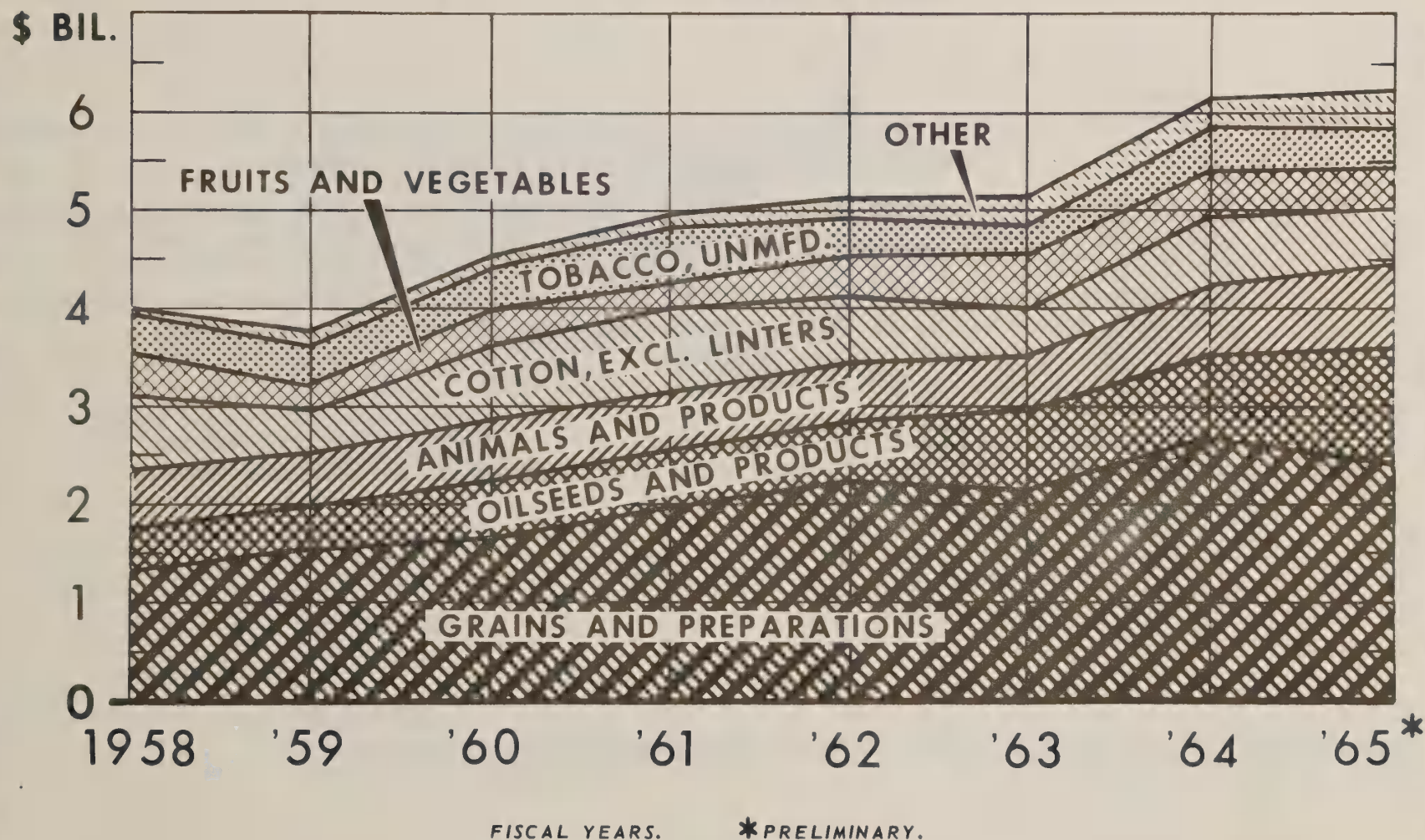
The total value of U.S. agricultural exports has amounted to over \$6 billion annually in recent years. Exports have grown steadily in recent years, with a total increase since 1958 of over \$2 billion.

Grains have been the largest single commodity group exported, and there has been a steady and significant increase in the value of grain exports. In recent years grain exports have amounted to about \$2.5 billion, up from about \$1.4 billion in 1958. The value of oilseed and oilseed products, and fruit and vegetable exports has also been increasing.

The value of animal product exports has, in the main, held steady since 1958, with some increase occurring in the last two years. The value of cotton and tobacco exports has fluctuated since 1958; no significant trend for increased exports of these commodities is apparent in recent years.

# U. S. AGRICULTURAL EXPORTS

## By Commodity Groups



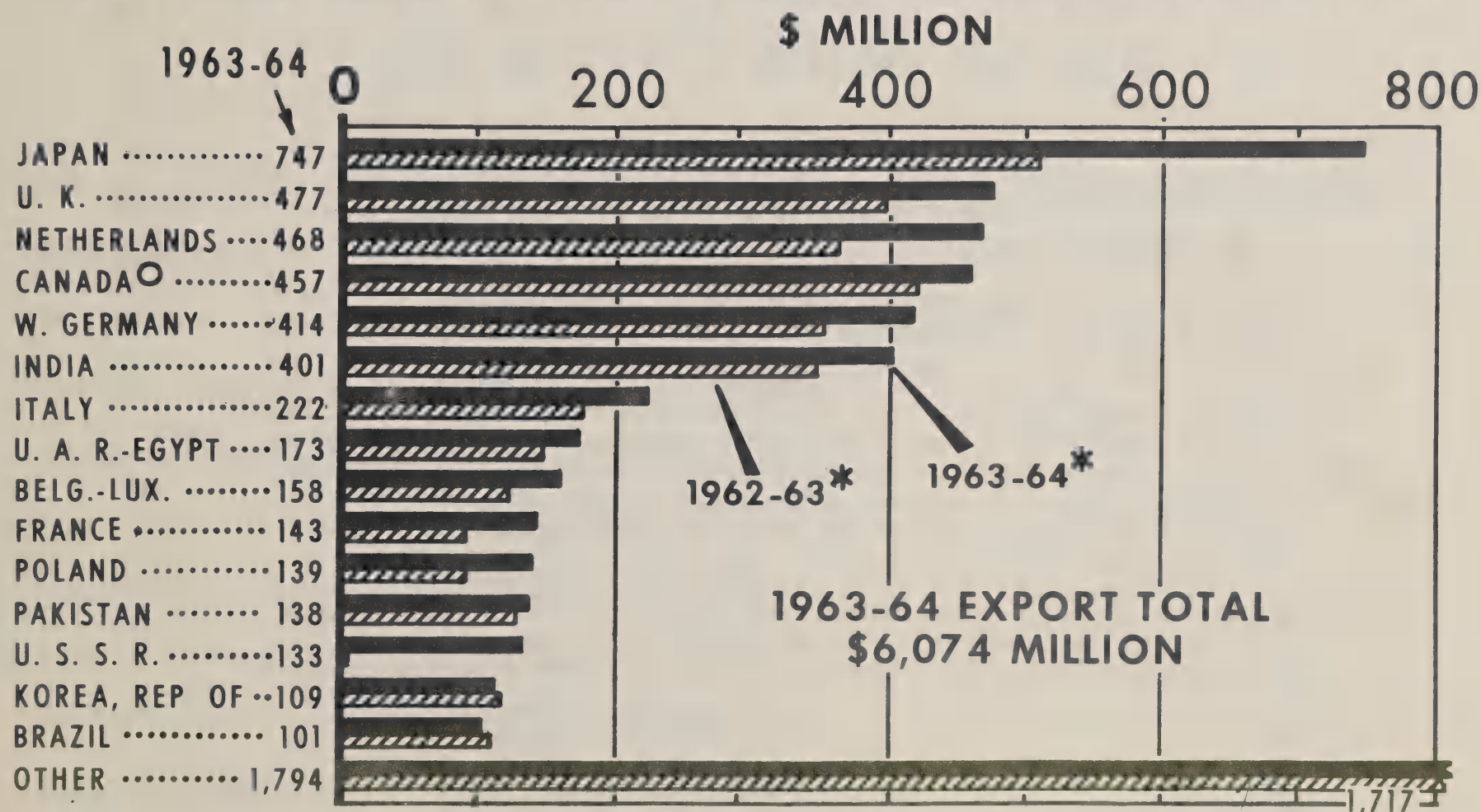


### Exports of U.S. Farm Products by Countries

Japan has been the largest market for U.S. exports of farm products in recent years. In 1963-64 exports to Japan totaled \$747 million, up 46 percent from the \$512 million in 1962-63. The United Kingdom, the Netherlands, Canada, and West Germany are also very large commercial markets for U.S. agricultural products. There ~~was~~ a sizable increase in exports to each of these countries in 1963-64 over 1962-63 levels. The value of farm exports to India was \$401 million in 1963-64, up from \$348 million in 1962-63.

These values include both commercial exports and shipments under Government programs. Shipments under Government programs accounted for more than 90 percent of total farm exports to India, United Arab Republic (Egypt) and Pakistan in 1963-64. Commercial sales for dollars accounted for nearly all of the exports to the other leading destination countries.

# EXPORTS OF FARM PRODUCTS, BY COUNTRIES



\* YEAR ENDING JUNE 30. <sup>○</sup> EXPORTS TO CANADA EXCLUDE \$161 MILLION WORTH OF GRAIN SHIPMENTS IN TRANSIT TO OTHER COUNTRIES. THE \$161 MILLION WAS ALLOCATED TO COUNTRIES OF DESTINATION.

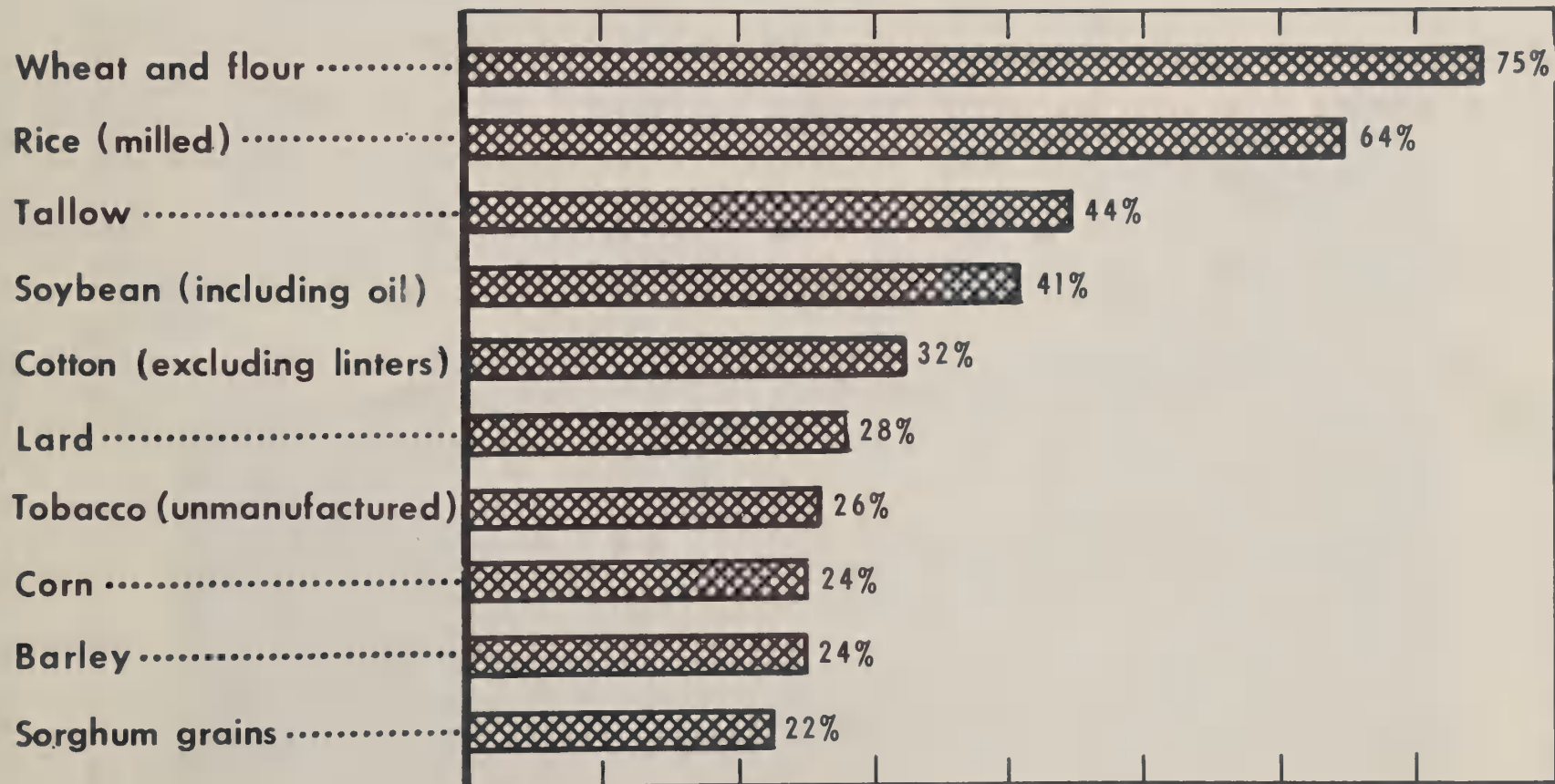
### Exports of Farm Products as a Percent of Farm Sales

Exports provide an important outlet for U. S. farm products. On a value basis in 1963-64, U. S. agricultural exports were equivalent to 16 percent of total cash receipts from farm marketings.

Exports of wheat and flour took three-fourths of U. S. wheat production in 1963-64. Rice exports accounted for 64 percent of the rice crop. Tallow exports accounted for 44 percent of production; soybeans, including oil, 41 percent; cotton, 32 percent; and tobacco, 26 percent. Exports as a percent of farm sales for corn and barley were 24 percent each, and for sorghums, 22 percent. Lard exports were 28 percent of production.

Exports of grains, cotton, and oilseeds and oilseed products represent a major outlet for production. The export market for crops is generally a more important market for crops than for livestock and livestock products.

# EXPORTS OF FARM PRODUCTS AS % OF FARM SALES



EXPORTS COMPARED WITH FARM SALES FOR FEED GRAINS AND WITH PRODUCTION FOR OTHERS.  
DATA ARE FOR FISCAL YEAR 1963-64.

U.S. agricultural exports: Value of commercial<sup>1/</sup> and Government program shipments to 15 leading markets, fiscal year 1964

(Dollars in millions)					
Country	Commercial <sup>1/</sup>		Government programs <sup>2/</sup>		Total value
	Value	Percent of total	Value	Percent of total	
	:	:	:	:	
Japan.....	\$727	\$98	\$15	\$2	\$742
Canada.....	<sup>3/</sup> 457	100	---	---	<sup>3/</sup> 457
United Kingdom.....	445	99	3	1	448
Netherlands.....	412	100	1	1	413
West Germany.....	406	99	4	1	410
India.....	11	3	390	97	401
Italy (incl. Trieste)...	210	96	8	4	218
United Arab Republic (Egypt).....	3	2	158	98	161
Belgium and Luxembourg..	150	100	---	---	150
France.....	142	100	---	---	142
Pakistan.....	---	---	138	100	138
Poland and Danzig.....	53	41	77	59	130
Union of Soviet Socialist Republics...	128	100	---	---	128
Korea, Republic of.....	21	19	88	81	109
Brazil.....	<sup>4/</sup> 12	12	89	88	101
Other.....	<sup>4/</sup> 1,314	60	612	32	<sup>4/</sup> 1,926
Total.....	4,491	74	1,583	26	6,074

<sup>1/</sup> Includes, in addition to unassisted commercial transactions, shipments of some commodities with Government assistance in the form of (1) export payments in cash or kind, (2) sales of Government-owned commodities at less than domestic market prices, and (3) extension of credit for relatively short periods.

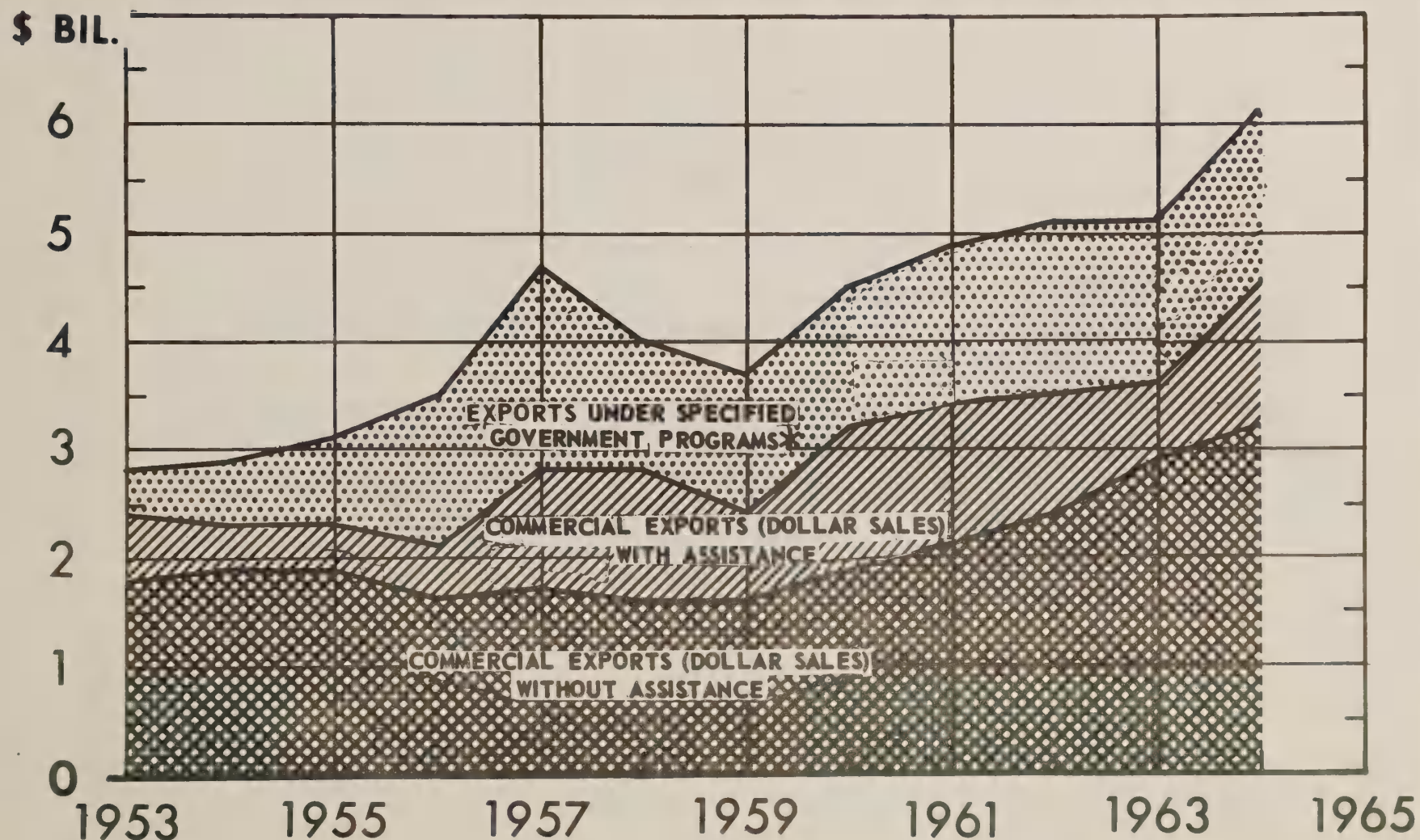
<sup>2/</sup> Includes Public Law 480 and Public Law 87-195 shipments.

<sup>3/</sup> Does not include an estimated \$161 million worth of commodities in transit to other countries, which are included in the total value of exports.

<sup>4/</sup> Includes an estimated \$161 million worth of commodities in transit through Canadian ports to other countries.



# EXPORTS OF FARM PRODUCTS



\* TRADE ASSISTANCE AND DEVELOPMENT ACT, P. L. 480, AND MUTUAL SECURITY ACT, 665.  
YEAR ENDING JUNE 30.

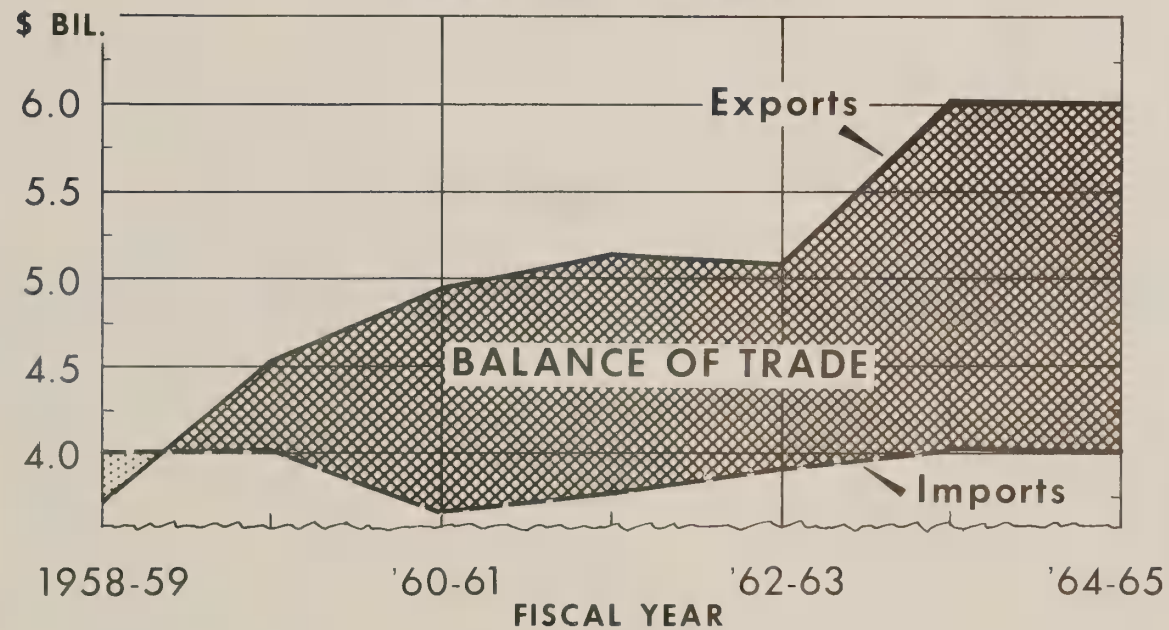


### Trade in Farm Products and Balance-of-Payments

U.S. balance in agricultural trade is one of the bright spots in the U.S. balance-of-payments picture. Commercial trade in farm products is helping offset the dollar drain.

The United States is also getting helpful balance-of-payments assistance from the agricultural exports that move under P.L. 480. Foreign currencies generated under Title I, P.L. 480, are used to pay such bills as embassy expenses, military outlays, and costs of market development operations carried on all over the world; an estimated \$208 million was used for these purposes in 1964. In the fiscal year ending June 30, 1964, about 40 percent of the U.S. Government's economic development assistance overseas was in the form of agricultural commodities, and local currencies received from their sale.

## U. S. AGRICULTURAL EXPORTS AND IMPORTS



1964-65 PARTLY ESTIMATED.

U. S. DEPARTMENT OF AGRICULTURE

NEG. ERS 2867-65 (7) ECONOMIC RESEARCH SERVICE

# AGRICULTURAL EXPORT AND IMPORTS



1905

FISCAL YEAR

1905

## **Section 7**

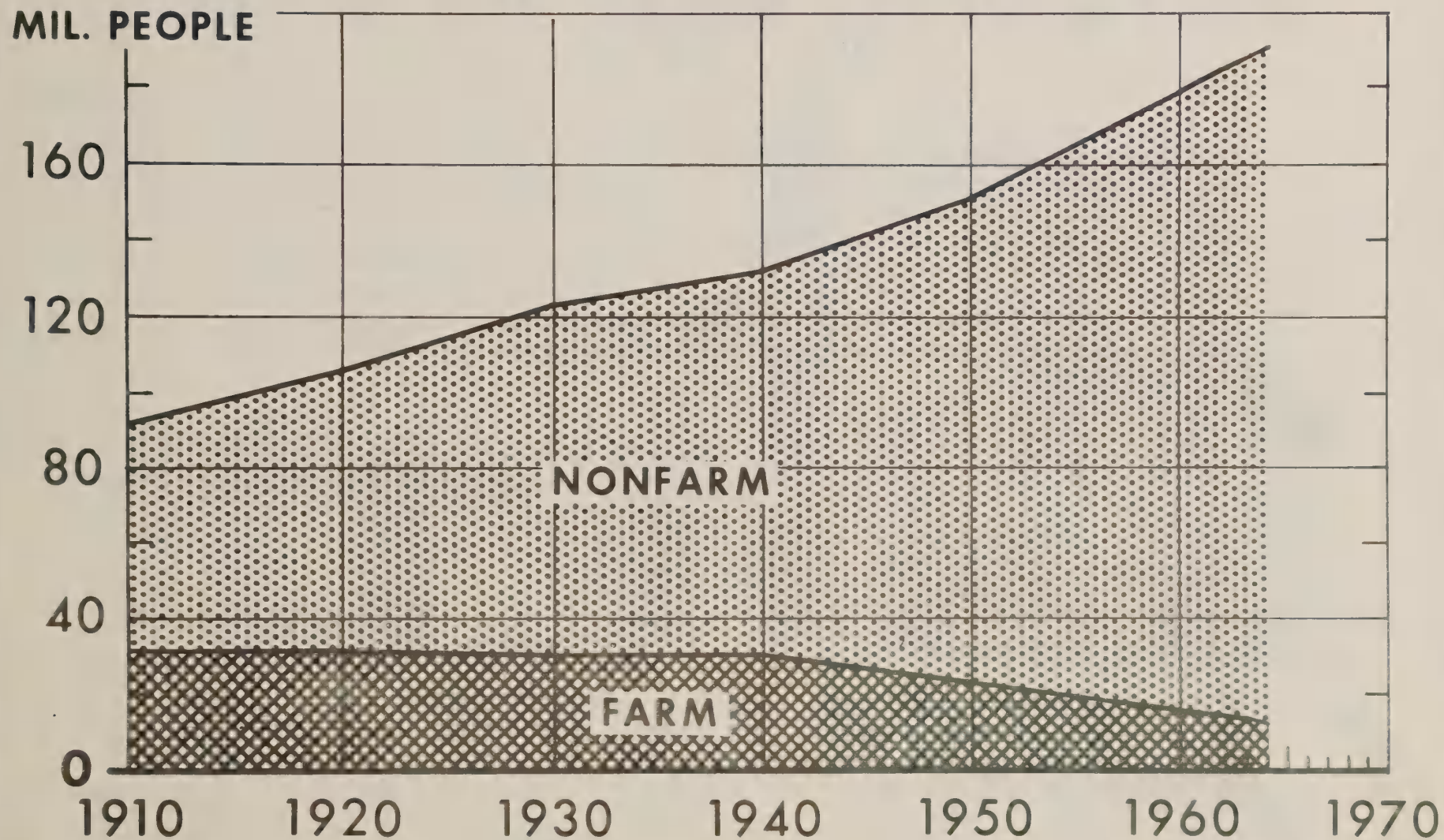
# **RURAL POPULATION AND THE LOW INCOME PROBLEM**

### Farm Population

The number of people living on farms is estimated at 12,363,000 in 1965. They accounted for just 6.4 percent of the total U. S. population. The farm population reached its maximum number of 32.5 million in 1916, at which time it comprised 32 percent of the total population. The absolute size of the farm population was remarkably stable for the next 25 years -- never dropping below 30 million in this time. The proportion of all people who lived on farms gradually dropped, however, because the nonfarm population grew.

Beginning with 1941, and continuing with only a brief interruption at the end of World War II, the number of farm people has dropped rapidly. The simultaneous rapid growth of the nonfarm population has served to accelerate the decline in the proportion that farm residents comprise of the total population. Their proportion of the total was 22.6 percent as late as 1941, compared with the present 6.4 percent. Even within the rural population farm residents are a distinct minority, accounting for not more than a fourth of the rural total.

# FARM AND NONFARM POPULATION



DATA FROM BUREAU OF THE CENSUS AND ECONOMIC RESEARCH SERVICE.



### Migration of Farm People

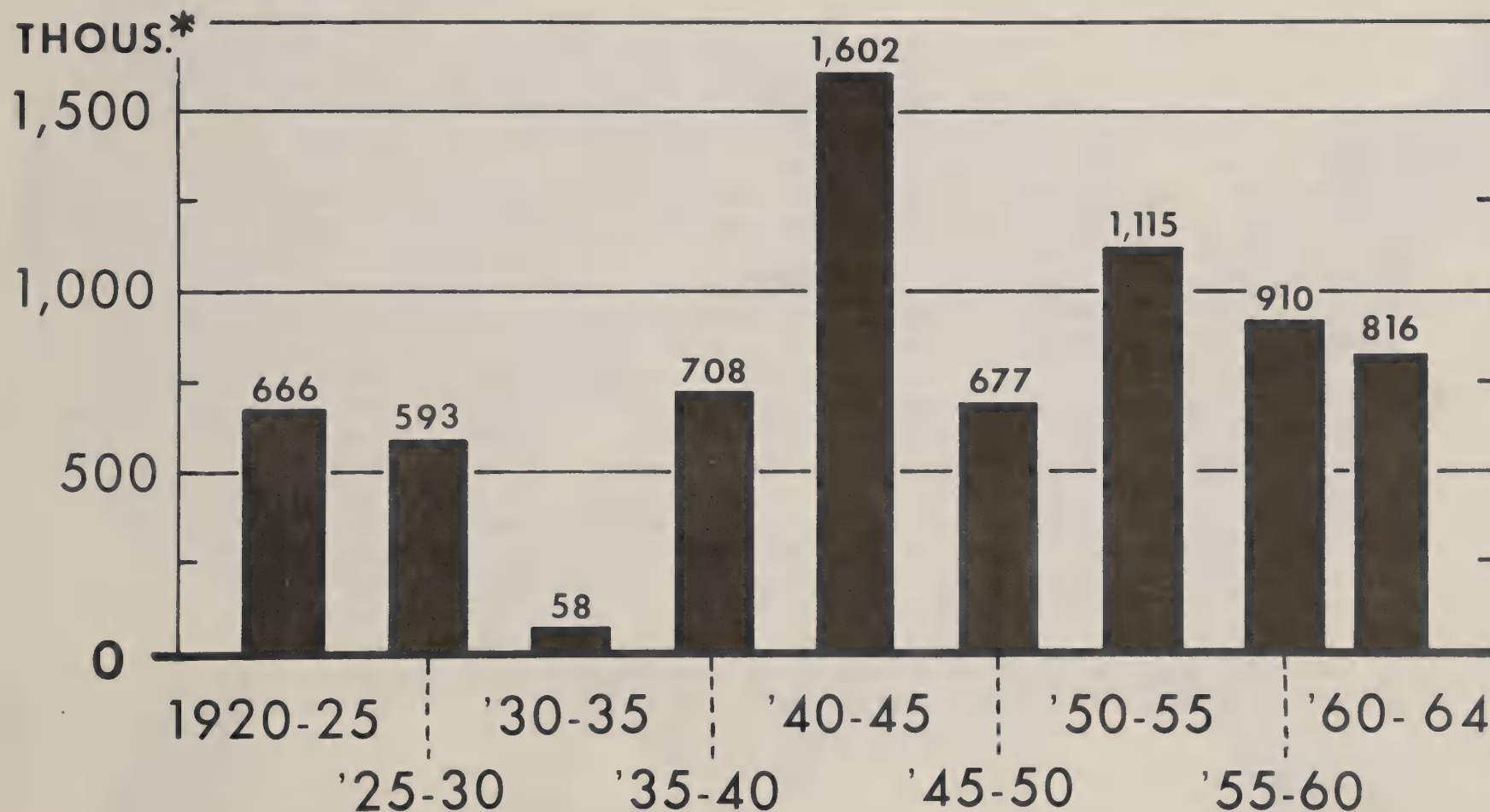
In every 5-year period since 1920 the average net outmovement of people from farms has amounted to more than a half million annually, except during the heart of the depression from 1930-35. Peak outmigration of 1,602,000 annually occurred during World War II when people poured off the farms to enter the armed forces or engage in defense work. From 1960 to 1964 the average was 816,000 persons a year, a rate equal to 5.7 percent of the farm population. This represents some decline in absolute level of outmovement from the 1950's. However, the present outmovement occurs from a much lower base number of farm people than formerly and represents no reduction in the rate of migration.

#### Net migration as a percent of average base farm population

1960-64	5.7
1955-60	5.2
1950-55	5.4
1945-50	2.8
1940-45	5.8

In sum, the impact on receiving areas in recent years has been reduced by the lowered absolute number of farm migrants, but the relative effects on farming areas stemming from the departures -- a majority of whom are young adults -- are as great as ever.

# AVERAGE ANNUAL NET OUTMIGRATION FROM THE FARM POPULATION



\*NET CHANGE THROUGH MIGRATION AND RECLASSIFICATION OF RESIDENCE FROM FARM TO NONFARM.

### Regional Changes in Rural Population

From 1950 to 1960 total rural population was almost unchanged. Rural people living in the open country and in nonsuburban places of less than 2,5000 population numbered 54,054,000 in 1960. However, stability in the overall number of rural people conceals a great deal of redistribution of population. Heavy rural losses (declines of 10 percent or more) were found through most of the interior Coastal Plain of the Lower South from Georgia through Texas. This was also true of many areas of the Great Plains, especially from Nebraska southward. Other prominent zones of heavy rural loss were sections of the Allegheny Plateau (particularly the Coal Fields), much of the Ozark-Ouachita upland country, and marginal Corn Belt areas of Iowa and Missouri. For the most part these areas are bordered by others that had rural losses of up to 10 percent.

On the other hand there were areas of sizeable rural increase (10 percent gain or more), which often grew from net immigration as well as from natural increase. Such areas were characteristic of boom States -- California, Florida, Nevada. They were also common in the hinterlands of large cities of the Lower Great Lakes area and the Atlantic Seaboard. Rural population gains were seldom associated with agriculture. Typically they involved manufacturing, metropolitan sprawl, military bases, and recreation-retirement.



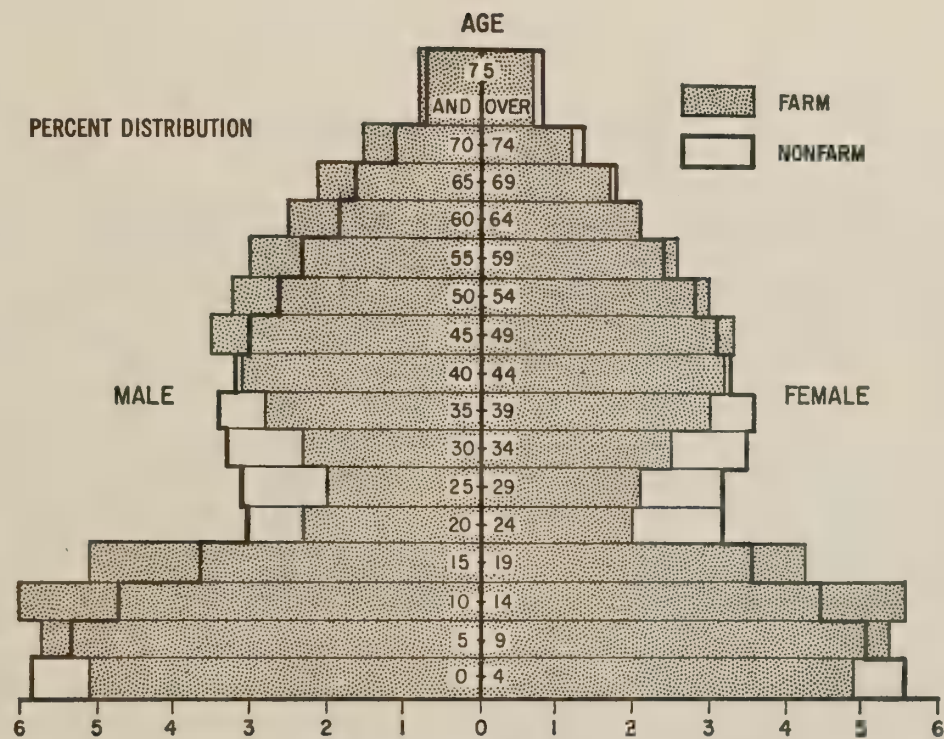
# RURAL POPULATION CHANGE FROM 1950 TO 1960

By State Economic Areas



### Population Age Structure

Extensive migration of young people to the cities and other nonfarm areas has left the farm population with a smaller number in the productive age groups, particularly between 20 and 40 years old. Older and younger age groups are more prevalent in the rural population, resulting in a higher dependency ratio. The farm and rural population is being left with an older, less productive population. Migration tends to be very heavy among the youth. For example, of the net number of farm people who left the farm during the 1950's, at least 70 percent were either under 20 years old or had reached age 20 only during that decade. Many rural areas, where this outmigration has been heavy for two or more decades, have suffered continued decline as dependent population increases relatively, business activity shrinks and public facilities deteriorate. Within some broad regions these age differences are much greater than at the national level. This pattern of population age structure probably is being accentuated in the 1960's as recent data shows continued heavy outmigration.



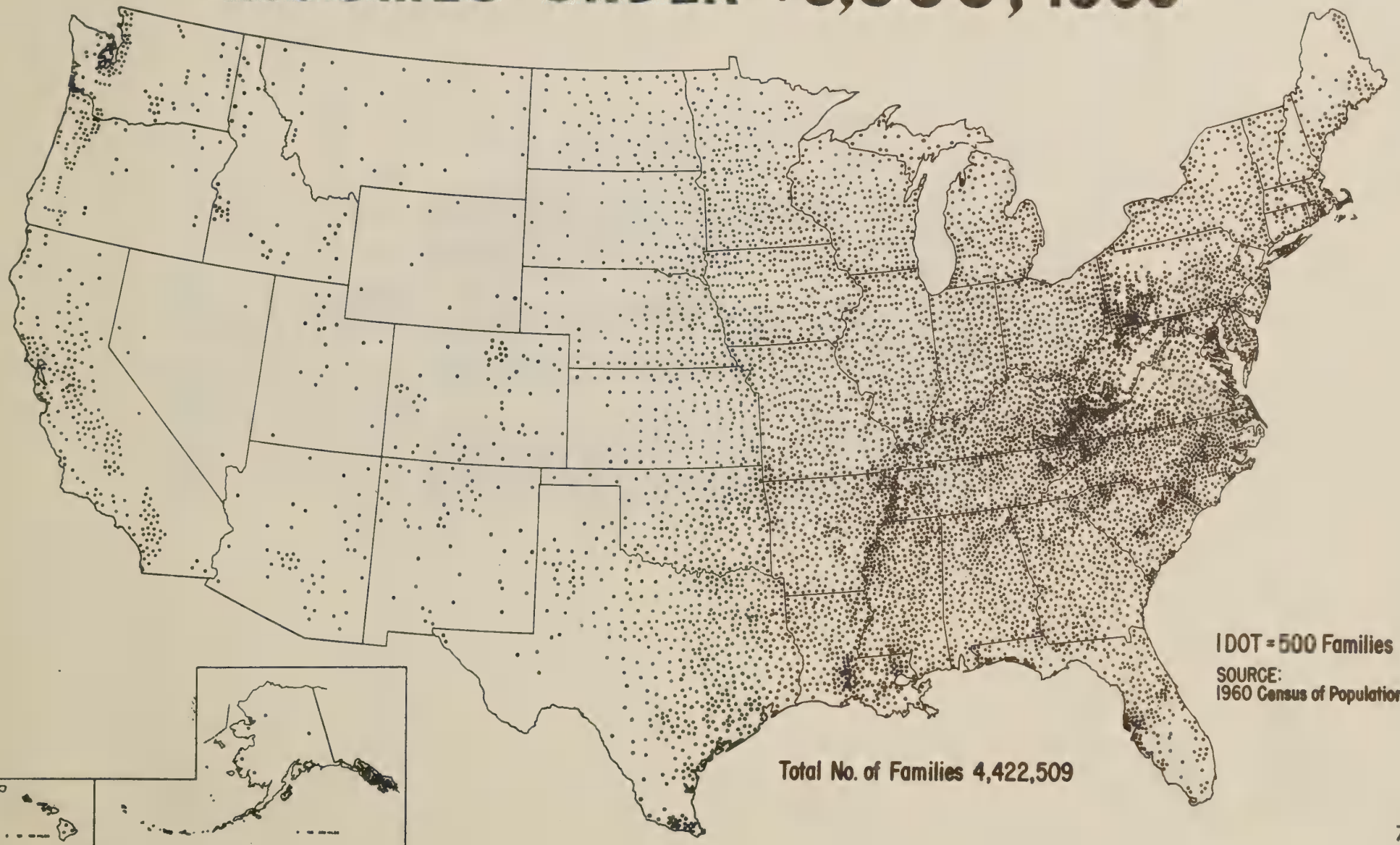
FARM AND NONFARM POPULATION PROFILES: 1960



### Rural Low Income Families

Rural low income families are scattered throughout the United States, with a significant concentration in the Southeastern States, the Mississippi Delta, and the Appalachian Region. Surprisingly there are considerable numbers of low income families throughout the Midwest, but these families generally are widely dispersed. The density of low income rural families depends upon the density of rural population. For example, a high proportion of rural families in certain Southwestern areas, especially Indian reservations have extremely high rates of poverty, but the population is sparse and the total absolute number of poor families is small. Not nearly all rural low income families are farm families. In 1959 about 17.4 million rural residents were in families with incomes below \$3,000. Only about 6 million of these people were on farms. About 12 million of the 17.4 million rural people in poverty were whites, but the incidence of poverty is more than twice as heavy among Negro families. Recent information, based on 1964 surveys, indicates that rural poverty makes up about 41 percent of total poverty. The incidence of farm poverty is about twice as heavy as poverty in the nonfarm population, as farm population amounts to about 7 percent of total population and to about 13 percent of total poverty.

# NUMBER OF RURAL FAMILIES WITH INCOMES UNDER \$3,000, 1959



### Conditions of Housing

Although U.S. housing as a whole has been undergoing a general facelifting, farm housing still lags behind housing in urban areas. Although this lag is less than two decades ago, deteriorating and dilapidated housing is twice as prevalent among farm homes. Farm tenant housing is usually much poorer, both in condition and facilities available. Farm houses in the Northeast, North Central, and Western regions, are similar to the rural nonfarm homes, insofar as the percentage having sound structural condition, all plumbing facilities, telephones, and some of the other household equipment. In the South, however, although striking gains have been made, farm housing still is much less adequate than rural nonfarm homes and urban homes in the region.

# CONDITION OF HOUSING

*By Urbanization and Tenure, 1960*

## FARM



## RURAL NONFARM



## URBAN



Sound
  Deteriorating
  Dilapidated

OCCUPIED UNITS.

CENSUS BUREAU DATA.

U. S. DEPARTMENT OF AGRICULTURE

NEG. 63 (5)-5527 AGRICULTURAL RESEARCH SERVICE

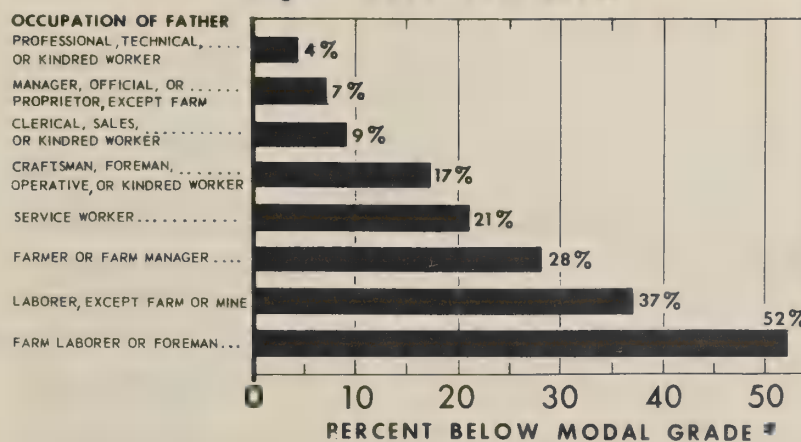
## Rural Education

Rural people lag considerably in education attainment. Recent information indicates that present farm and rural youth are attending school at ~~more~~ comparable rates to urban youths, but for those in order age groups, educational differences ~~are~~ significant. Even among current youth, there is considerable lag in the educational attainment for farm youth. More than one-fourth of the children of farm operators and farm managers are below the model educational attainment for their age. Farm laborer children are especially disadvantaged in this regard. Rural children attend kindergarten at less than half the rate of urban children. Among persons 25 years old and over, rural farm residents have graduated from high school at only about two-thirds the rate of urban people. College enrollment of farmer or farm worker children is less than half the rate of college enrollment among the children of white collar workers in urban areas. Over a fifth of the school age children of farmers and over half the children of farm laborers had an education of at least one year below that of the average for all children of their age. For the Negro population, the differences between rural and urban at all age levels are extremely wide.

Rural school plants on the average are considerably below their urban counterparts, raising a question of quality differentials. Expenditures per pupil are lower, teachers are less qualified, and curricula are narrower.



## Children of Farmers and Laborers Lag in Educational Level



■ PERCENT OF CHILDREN, 14 TO 24 YEARS OLD, LIVING WITH BOTH PARENTS, BELOW MODAL  
EDUCATIONAL ATTAINMENT FOR THEIR AGE. 1959 DATA FROM BUREAU OF THE CENSUS.

U. S. DEPARTMENT OF AGRICULTURE

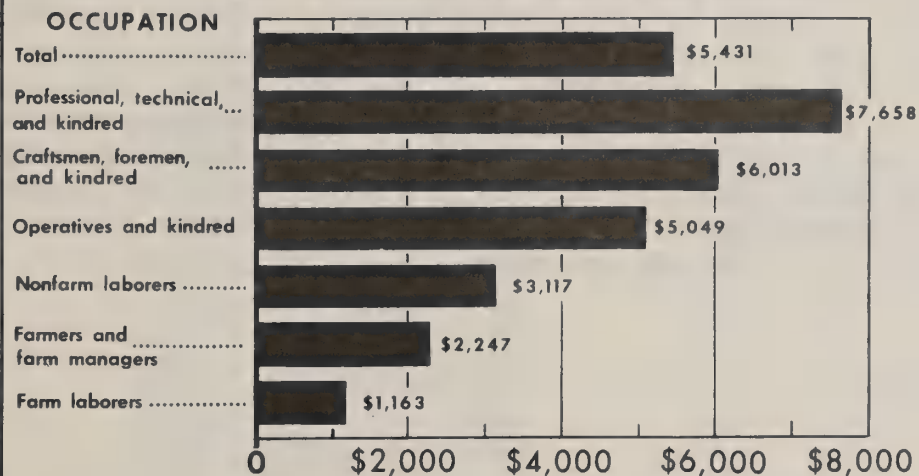
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### Median Earnings by Occupations

Median earnings vary widely by occupations. The two significant lowest income groups are farming occupations; that is, farmers and farm managers and farm laborers. Farm laborers are the lowest income group of the Nation. Low wage rates coupled with short average duration of farm work yield low annual earnings to farm wage workers. In 1964, the average noncasual farm wage worker earned about \$933 from 129 days of farm work at an average earning of \$7.20 a day. Even for male workers whose primary occupation at a given time of the year is farm wage work, wages and incomes are generally lower than for other occupations. For example, men who reported farm laborer or foreman as their primary occupation in March of 1964 averaged only about \$1,200 cash income in 1963, whereas nonfarm laborers averaged over \$3,100. Farmers and farm managers averaged about \$2,250 in that year.

## MEDIAN EARNINGS OF MALES BY OCCUPATION, 1964



MEDIAN EARNINGS IN 1963 FROM EMPLOYMENT, INCLUDING  
SELF-EMPLOYMENT, OF MALES IN CIVILIAN LABOR FORCE.

DATA FROM BUREAU OF THE CENSUS.

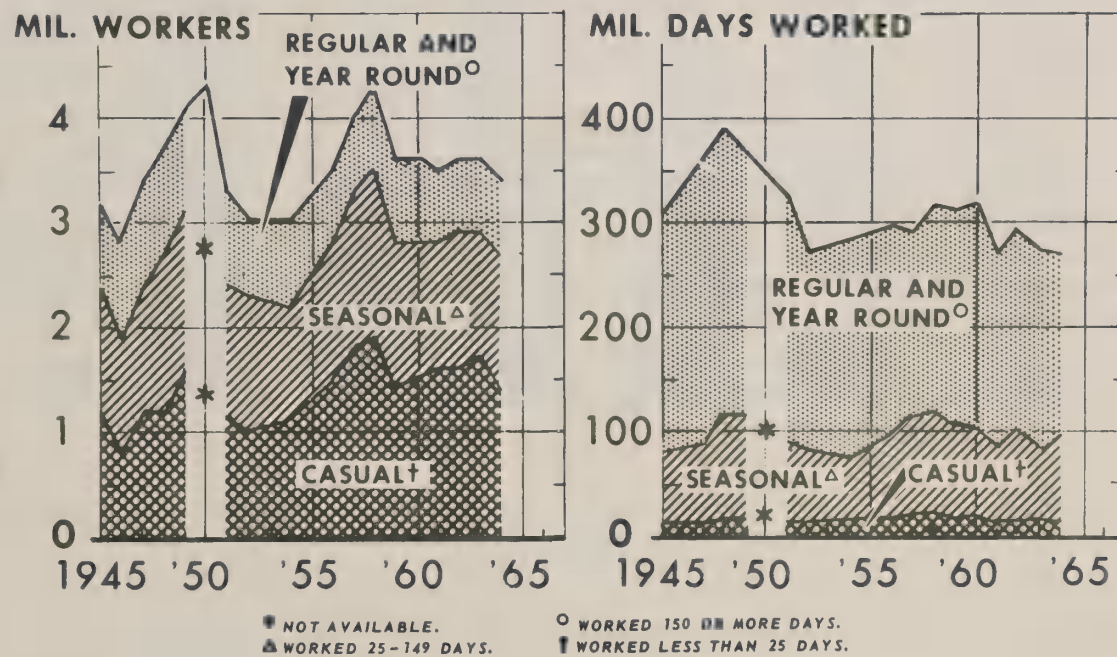
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### Hired Farm Workers

In 1964, about 3.4 million different persons in the civilian population 14 years old and over did some work on farms for cash wages. These workers did about 271 million man-days of work, about one-fourth of the total number of days of labor on farms in 1964. Regular and year-round workers, who comprised about one-fifth of the hired farm working force, did about two-thirds of the total number of man-days of farm wage work. This is in contrast to the situation some 15 or 20 years ago when these workers comprised about one-fourth of the hired farm working force, and did about three-fourths of the man-days of work. Seasonal and casual workers, who have become increasingly important in numbers, are contributing a larger proportion of the days of work than they did years ago.

## NUMBER OF HIRED FARM WORKERS AND MAN DAYS WORKED



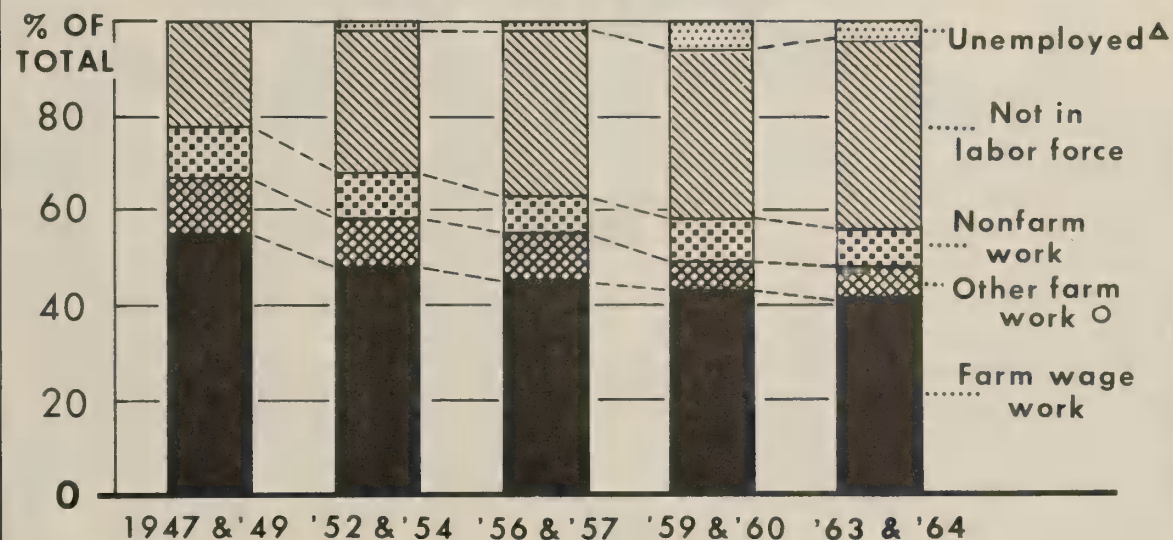
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### Employment of Hired Workers

The proportion of all hired farm workers for whom farm work is a major labor force activity in the year has dropped considerably in recent years, from about 55 percent in 1947-49 to about 42 percent in 1963-64. The hired farm working force has been increasingly drawn from among persons who are not in the labor force most of the year. More than two-thirds of the casual workers (those who do less than 25 days of farm wage work in the year) are not in the labor force most of the year. Housewives and students make up the majority of this group. But even among noncasual workers (those who do 25 days or more of work) many are not in the labor force most of the year. The proportion of students among noncasual workers has about doubled since 1951. Together housewives and students now comprise about one-third of the noncasual workers. A tenth of the wage workers operate their own farms or do unpaid work on their family farms and another ten percent were employed at nonfarm jobs most of 1964.

## CHIEF ACTIVITY OF FARM WAGE WORKERS\*



■ WORKERS WHO DID 25 DAYS OR MORE OF FARM WAGE WORK DURING THE YEAR, AVERAGE OF SELECTED YEARS.  
 ▲ NOT AVAILABLE FOR 1947 & '49. ○ INCLUDES OPERATING A FARM AND UNPAID FAMILY LABOR.

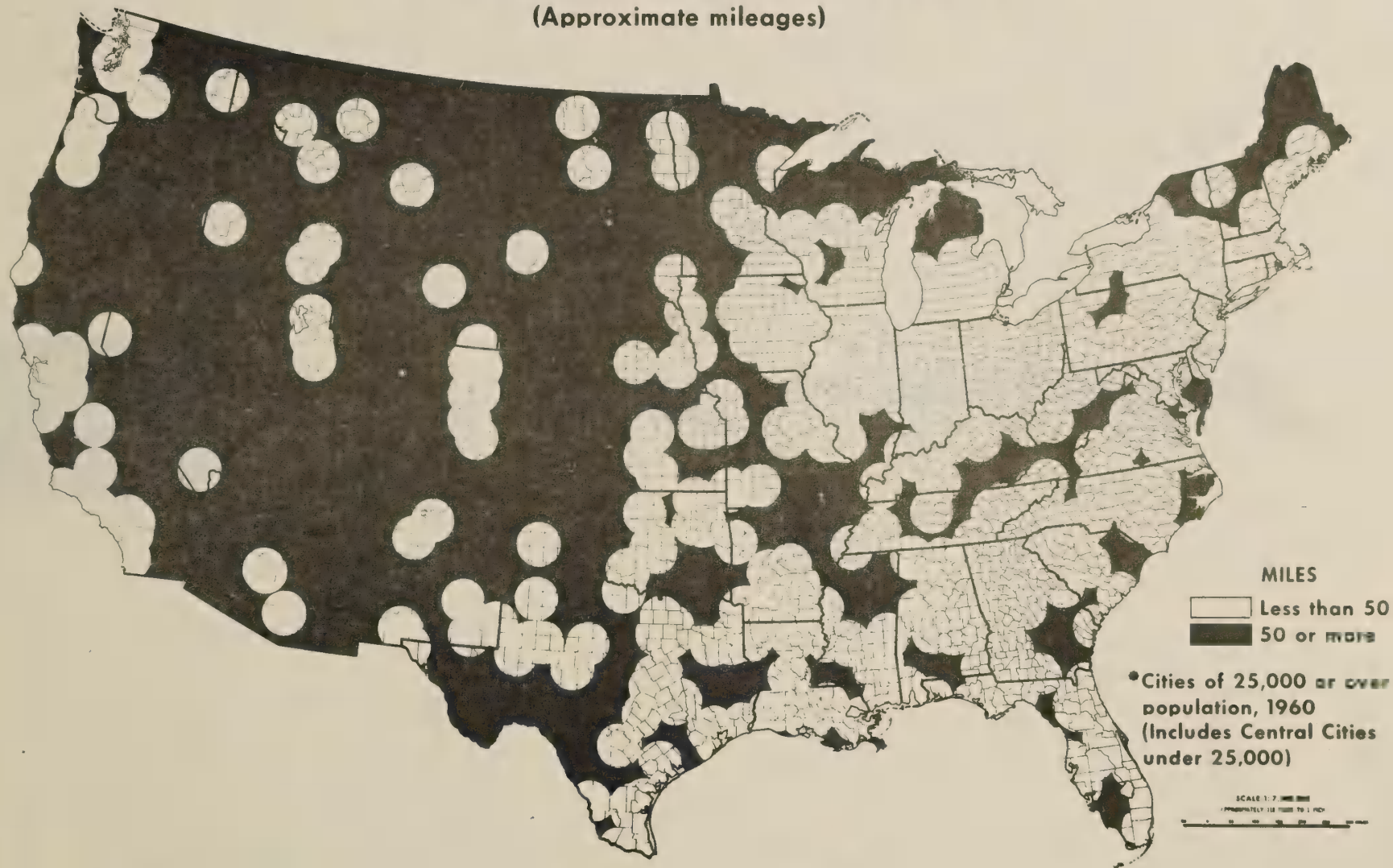


### Area Development

Rural development and development potentials are highly associated with size of population center. Over the past several years the rural labor force has adjusted to nonfarm opportunities to a considerable extent. This has been done by out migration or by continuing rural residence and commuting to nonfarm employment. Much of rural America is now characterized by a nonfarm labor market that furnishes opportunity to those continuing to leave the shrinking employment in agriculture. The availability of these opportunities is highly related to the nonfarm activities of the city centers. It is interesting that more than two-thirds of the rural labor force lives within commuting distance of cities of 25,000 population and over. Thus, with job expansion in such cities and even smaller ones, the rural labor force can be made more productive and much of the rural poverty and low income might be relieved on a regional basis without necessarily continuing heavy rural to urban migration.

# GENERALIZED COMMUTING DISTANCES TO POPULATION CENTERS\*

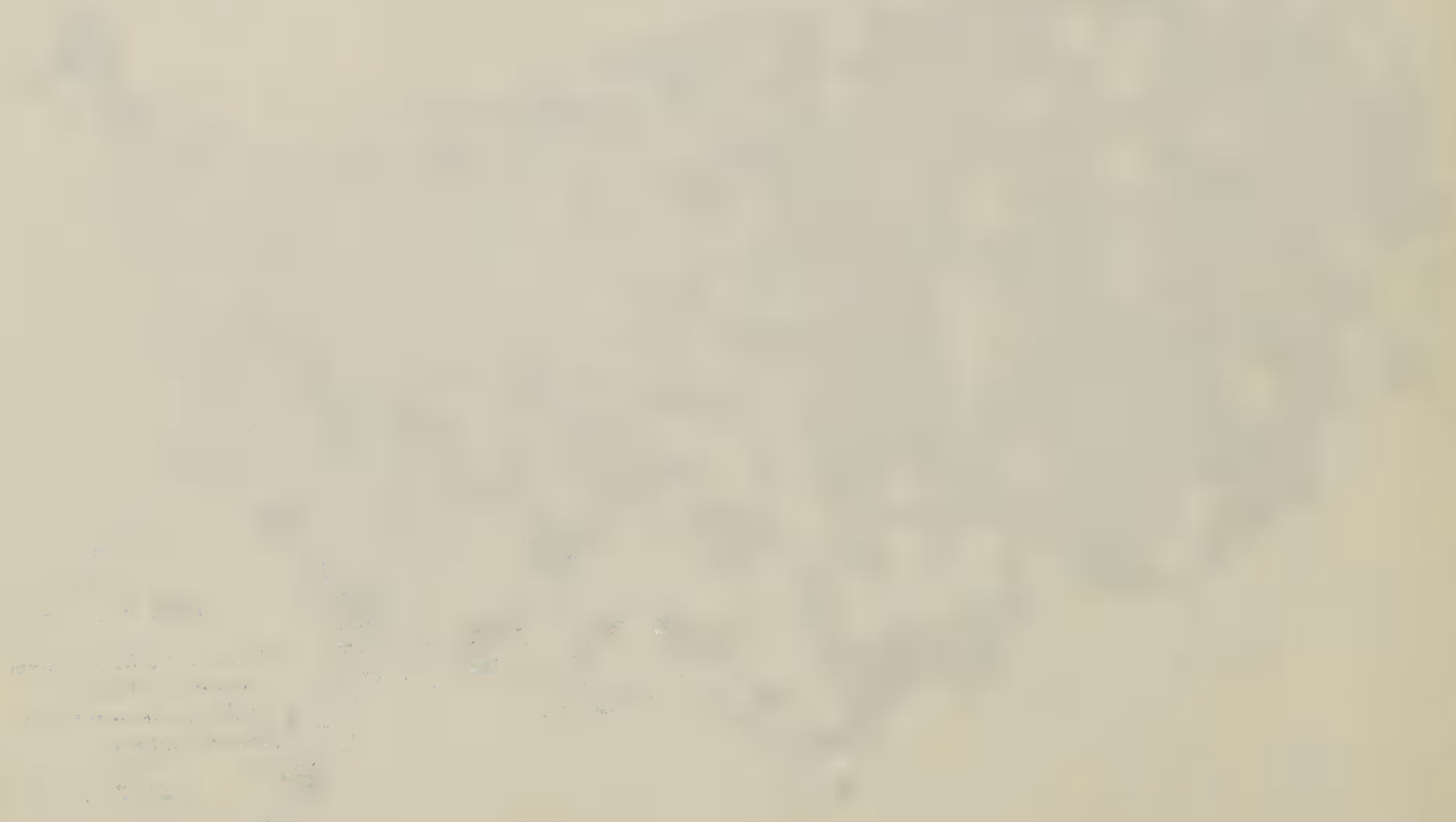
(Approximate mileages)



# THE UNITED STATES OF AMERICA

## DEPARTMENT OF THE INTERIOR

### BUREAU OF LAND MANAGEMENT



1. The purpose of this map is to show the location of the various land areas owned by the United States.

2. The map is based on the latest available data from the Bureau of Land Management.

3. The map is intended for use by the public and by the various agencies of the Federal Government.

4. The map is not to be used for any other purpose without the express permission of the Bureau of Land Management.

U.S. GOVERNMENT PRINTING OFFICE

1964 O-550-000

## **Section 8**

# **HISTORY OF COMMODITY PRICE SUPPORT PROGRAMS**

## Section XIII

### History of Commodity Price Support Programs

The unprecedented economic crisis which had paralyzed the nation by 1933 had struck first and hardest at the farm sector of the economy. Farm prices had fallen more than 50 percent from 1929 to 1932, while the prices of things farmers had to buy had declined 32 percent.

After years of debate, the Agricultural Marketing Act of 1929, establishing the Federal Farm Board, was passed by Congress on the theory that cooperative marketing organizations and stabilization corporations aided by the Federal Government could provide the solution. By June 30, 1932 the Federal Farm Board conceded that its efforts to stem the disastrous decline in farm prices had failed.

The Agricultural Adjustment Act was approved on May 12, 1933. Its goal of restoring farm purchasing power of agricultural commodities to the 1909-14 level was to be accomplished through the use of a number of methods. These included the authorization: (1) to secure voluntary reduction of the acreage in basic crops through agreements with producers and by making direct payments for participation in acreage control programs; (2) to regulate marketing through voluntary agreements among processors and distributors; (3) to license handlers of agricultural commodities; (4) to determine the rate of processing taxes; and (5) to use the proceeds of taxes and appropriated funds for the cost of adjustment operations, for the expansion of markets, and for the removal of agricultural surpluses.

The Government offered nonrecourse loans in 1933 for cotton and corn. They were initiated as temporary measures to give farmers in advance some of the benefits to be derived from controlled production and to stimulate farm purchasing power. The first cotton loan at 10 cents a pound was approximately 69 percent of parity. The first corn loan was at approximately 60 percent of parity.

The Bankhead Cotton Control Act of April 21, 1934 and the Kerr-Smith Tobacco Control Act of June 28, 1934 introduced a system of marketing quotas. Quotas



under these laws added quantity control to acreage control and thus discouraged more intensive cultivation. These measures also introduced the mandatory use of grower referendums.

Surplus disposal programs of the Department were initiated as an emergency supplement to the crop control programs. Section 32 of the August 24, 1935 amendments to the Agricultural Adjustment Act set aside 30 percent of the custom receipts for the removal of surplus commodities.

Production control programs were supplemented by marketing agreement programs for a number of fruits and vegetables and for some other nonbasic commodities. Marketing agreements raised producer prices by controlling the timing and the volume of the commodity marketed. They were in effect for a number of fluid milk areas, and for a short period for tobacco, rice and peanuts.

The Agricultural Adjustment program was brought to an abrupt halt on January 6, 1936, by the Hoosac Mills decision of the Supreme Court. Farmers had enjoyed a striking increase in farm income during the period the Agricultural Adjustment Act had been in effect. Farm income in 1935 had increased by more than 50 percent over farm income during 1932. Rental and benefit payments contributed about 25 percent of the amount by which the average cash farm income in the period 1933-35 exceeded the average cash farm income in 1932.

The Supreme Court's ruling necessitated a new approach. The Department and spokesmen for farmers recommended to Congress that farmers be paid for voluntarily shifting acreage from soil-depleting surplus crops into soil-conserving legumes and grasses. The Soil Conservation and Domestic Allotment Act was approved on February 29, 1936. This Act combined the objectives of promoting soil conservation and better farm management with that of reestablishing and maintaining farm income at fair levels. The goal of income parity as distinguished from price parity was introduced into legislation for the first time.

Curtailment in crop production due to a severe drought in 1936 tended to obscure the fact that planted acreage of the crops which had been classified as basic increased despite the soil conservation program. The recurrence of normal weather, crop surpluses, and declining farm prices in 1937 focused attention on the failure of the conservation program to bring about crop reduction as a byproduct of better land utilization.



The Department and spokesmen for farm organizations began working on plans for new legislation to supplement the Soil Conservation and Domestic Allotment Act. The Agricultural Adjustment Act of 1938, approved February 16, 1938, combined the conservation program of the 1936 legislation with ~~new~~ features designed to meet drought emergencies ~~as well as~~ price and income crises resulting from surplus production. The new features of the legislation included: mandatory nonrecourse loans for cooperating producers of corn, wheat and cotton under certain supply and price conditions, if marketing quotas had not been rejected, and loans at the option of the Secretary for producers of other commodities; marketing quotas to be proclaimed for corn, cotton, rice, tobacco, and wheat when supplies reached certain levels; referendums to determine whether marketing quotas should be put into effect; crop insurance for wheat; and parity payments, if funds were appropriated, to producers of corn, cotton, rice, tobacco, and wheat in amounts which would provide a return ~~as~~ nearly equal to parity ~~as~~ the available funds would permit. The attainment insofar ~~as~~ practicable of parity prices and parity incomes ~~was~~ stated ~~as~~ a goal of the legislation. Another goal, in addition to conservation, ~~was~~ the protection of consumers by the maintenance of adequate reserves of food and feed.

The Agricultural Adjustment program did not become fully operative until the 1939-40 marketing year, when crop allotments were available to all farmers before planting time. Commodity loans were available in time for most producers to take advantage of them.

On cotton and wheat loans, the Secretary had discretion in the determination of the rate at a level between 52 and 75 percent of parity. A loan program was mandatory for these crops if prices fell below 52 percent of parity at the end of the crop year or if the production ~~was~~ in excess of ~~a~~ normal years' domestic consumption and exports. A more complex formula regulated corn loans with the rate graduated in relation to the expected supply, and with 75 percent of parity loans available when production ~~was~~ at or below normal ~~as~~ defined in the act. Loans for commodities other than corn, cotton and wheat were discretionary. Parity payments were made to the producers of cotton, corn, wheat, and rice who cooperated in the program.

Although marketing quotas were proclaimed for cotton and rice, and for flue-cured, Burley, and dark air-cured tobacco for the 1939-40 marketing year, only cotton quotas became effective. More than a third of the rice and tobacco producers voting in the referendums voted against quotas.

Without marketing quotas, flue-cured tobacco growers produced a record breaking crop and at the same time faced a sharp reduction in foreign markets due to the withdrawal of British buyers about 5 weeks after the markets opened. The loss of outlets caused a shut down in the flue-cured tobacco market. During the crisis period, growers approved marketing quotas for their 1940-41 crop and the Commodity Credit Corporation, through a purchase and loan agreement, restored buying power to the market.

In addition to tobacco, marketing quotas were in effect for the 1941 crops of sugar, cotton, wheat, and peanuts. Marketing quotas for peanuts had been authorized by legislation approved on April 3, 1941.

Success in controlling acreages of corn, cotton, tobacco and wheat--most marked in the case of cotton, where marketing quotas were in effect until July 10, 1943 and where long-run adjustments were taking place--was not accompanied by a comparable decline in production. Yield per harvested acre began an upward trend for all four crops. The trend was most marked for corn, due largely to the use of hybrid seed.

High farm production after 1937, at a time when nonfarm income remained below 1937 levels, resulted in a decline in farm prices of approximately 20 percent during the period from 1938 through 1940. The nonrecourse loans and payments helped to prevent a more drastic decline in farm income. Direct government payments reached their highest levels in 1939 when they were 35 percent of net cash income received from sales of crops and livestock.

During the war years steps had to be taken to increase the production of certain strategic commodities including the establishment of price supports at 90 percent of parity for many non-basic commodities and increases in the support levels for certain basic commodities. In some instances penalties for exceeding acreage allotments were relaxed and penalties instituted in some instances for failure to plant up to requisite levels for special war crop goals.

In the meantime, the Department had been developing new programs to dispose of surplus food and to raise the nutritional level of low-income consumers. The direct distribution programs, which began with the distribution of surplus pork in 1933, were supplemented by a nationwide school lunch program, a low cost milk program, and a food stamp program.

The large stocks of wheat, cotton, and corn resulting from price supporting loans became a military reserve of crucial importance after the United States entered World War II. Concern over the need to slow down the build up of Government stocks changed during the war and postwar period to concern over attainment of supplies adequate to meet war demands.

Following the passage of the Lend-Lease Act on March 11, 1941, Secretary Wickard announced, on April 3, 1941, a price support program for hogs, dairy products, chickens, and eggs at a rate above market prices.

Congress decided that legislation was needed to insure that farmers shared in the profits which defense contracts were bringing to the American economy. It passed legislation, approved on May 26, 1941, to raise the loan rates of cotton, corn, wheat, rice, and tobacco, for which producers had not disapproved marketing quotas, up to 85 percent of parity. The loan rates were available on the 1941 crop and were later extended to subsequent crops of cotton, corn, wheat, peanuts, rice and tobacco.

Legislation raising the loan rates for basic commodities was followed, on July 1, 1941, by the "Steagall Amendment" directing the Secretary to support at 85 percent of parity the prices of those nonbasic commodities for which he asked for an increase in production. The rate of support was raised to 90 percent of parity for corn, cotton, peanuts, rice, tobacco, and wheat by a law approved on October 2, 1942. However, the rate of 85 percent or parity could be used for any commodity if the President should determine the lower rate was necessary in the interest of national defense. This determination was made for wheat, corn, and rice. Since the price of rice was above the price support level, loans were not made.

The October 2, 1942 legislation also raised the price support level to 90 percent of parity for the nonbasic commodities for which an increase in production was requested. The following were entitled to 90 percent of parity by the Steagall Amendment; manufacturing milk, butterfat, chickens, eggs, turkeys, hogs, dry peas, dry beans, soybeans for oil, flaxseed for oil, peanuts for oil, American Egyptian cotton, Irish potatoes, and sweet-potatoes.

The price support rate for cotton was raised to 92 1/2 percent of parity and the price support rate for corn, rice and wheat was set at 90 percent of



parity by a law approved on June 30, 1944. On October 3, 1944, the price support rate for cotton was raised to 95 percent of parity with respect to crops harvested after December 31, 1943 and those planted in 1944. Cotton was purchased by the Commodity Credit Corporation at the rate of 100 percent of parity during 1944 and 1945.

In addition to price support incentives for the production of crops for lend-lease and military needs, the Department gradually relaxed penalties for exceeding acreage allotments provided the excess acreage was planted to war crops. In some areas during 1943, deductions were made in adjustment payments for failure to plant at least 90 percent of special war crop goals. Marketing quotas were retained throughout the war period on burley and flue-cured tobacco. Marketing quotas were retained on wheat until February 1943. Quotas were retained on cotton until July 10, 1943. Marketing quotas were retained on fire-cured and dark air-cured tobaccos until August 14, 1943.

With the wartime level of price supports scheduled to expire on December 31, 1948, price support levels would drop back to 52 to 75 percent of parity as provided in the Agricultural Adjustment Act of 1938 for basic commodities, with only discretionary support for nonbasic commodities. Congress decided that new legislation was needed and the Agricultural Act of 1948, an amendment to the Agricultural Adjustment Act of 1938, was approved on July 3, 1948. The Act provided mandatory price support at 90 percent of parity for the 1949 crops of wheat, corn, rice, peanuts for nuts, cotton and tobacco marketed before June 30, 1950 if producers had not disapproved marketing quotas. Mandatory price support at 90 percent of parity or comparable price was also provided for potatoes, hogs, chickens over 3 1/2 pounds live weight, eggs, and milk and its products through December 31, 1949. Price support for other Steagall commodities was to be at not less than 60 percent of parity nor higher than the level at which the commodity was supported in 1948. The Act authorized the Secretary of Agriculture to require compliance with production goals and marketing regulations as a condition to eligibility for price support of producers of all nonbasic commodities marketed in 1949. Price support for wool marketed before June 30, 1950 was authorized at the 1946 price support level, an average price to farmers of 42.3 cents per pound.

The parity formula ~~was~~ revised to make the relationship of parity prices among themselves dependent upon the relationship of the market prices of such commodities during a recent moving ten-year period.

Title II of the Agricultural Act of 1948 would have provided a sliding scale of price support for the basic commodities, with the exception of tobacco when quotas were in effect, but it never became effective. The Act of 1948 ~~was~~ superseded by the Agricultural Act of 1949 on October 31, 1949.

Support price for basic commodities was set at 90 percent of parity for 1950 and between 80 percent and 90 percent, except for tobacco, for 1951 if producers had not disapproved marketing quotas and if acreage allotments or marketing quotas were in effect. For the 1952 and succeeding crops, if producers had not disapproved marketing quotas, cooperating producers of basic commodities, with the exception of tobacco, were to receive support prices at levels varying from 75 to 90 percent of parity depending upon the supply.

Price support for wool, mohair, tung nuts, honey, and Irish potatoes was mandatory at levels ranging from 80 to 90 percent of parity. Whole milk and butterfat and their products were to be supported between 75 and 90 percent of parity.

Price support was authorized for any other nonbasic commodity at any level up to 90 percent of parity depending upon the availability of funds. Prices of any agricultural commodity could be supported at a level higher than 90 percent of parity in the interests of national welfare or security.

The Act amended the modernized parity formula of the Agricultural Act of 1948 to include wages paid hired farm labor and wartime subsidy payments. For basic commodities, the effective parity price through 1954 was to be the "old" parity price or "modernized" whichever ~~was~~ higher. For nonbasic commodities, the modernized parity price ~~was~~ to become effective in 1950.

Under authority of the Agricultural Act of 1949 price support for basic commodities was maintained at 90 percent of parity through 1950. Supports for nonbasic commodities were generally at lower levels during 1949 and 1950 than in 1948 whenever this ~~was~~ permitted by law. Price supports for hogs, chickens, turkeys, long staple cotton, peas and sweetpotatoes were discontinued.

Secretary Brannan used the national security provision of the Act to keep price support levels at 90 percent of parity during 1951 for all of the basic commodities except peanuts. The price support rate for peanuts was raised to 90 percent for 1952. Due to the outbreak of the Korean War on June 25, 1950 neither acreage allotments nor marketing quotas were in effect for the 1951 and 1952 crops of wheat, rice, corn, dry edible beans or cotton. Allotments and quotas were in effect for peanuts and most types of tobacco.

Prices of oats, barley, rye, and grain sorghums were supported at 75 percent of parity in 1951 and 80 percent in 1952. Naval stores, soybeans, cottonseed, and wool were supported both years at 90 percent, while butterfat was increased to 90 percent for the marketing year beginning April 1, 1951. Price support for potatoes was discontinued in 1951 under authority of a March 31, 1950 law which prohibited price support on the 1951 and subsequent crops unless marketing quotas were in effect.

Legislation on June 30, 1952 provided that price support loans for basic crops to cooperators should be at the rate of 90 percent of parity, or at higher levels, through April 1953 unless producers had disapproved marketing quotas. Supports were continued at 90 percent of parity for basic crops during 1953 and 1954, in accordance with an act of July 17, 1952.

The end of the Korean War in 1953 necessitated changes in price support, production control, and related programs. For the next decade, controversy over levels of support--high, fixed levels versus a sliding scale--was to dominate the scene.

Secretary of Agriculture Ezra Taft Benson proclaimed marketing quotas for the 1954 crops of wheat and cotton on June 1, 1953, and October 9, 1953, respectively. The major types of tobacco and peanuts continued under marketing quotas. However, quotas were not imposed on feed grains. The Secretary announced on February 27, 1953, that dairy prices would be supported at 90 percent of parity until April 1, 1954.

The Agricultural Trade Development and Assistance Act (Public Law 480), approved July 10, 1954, proved of major importance in disposing of farm products abroad.



The Agricultural Act of 1954, approved August 28, 1954, established price supports for the basic commodities on a flexible basis, ranging from 82.5 percent of parity to 90 percent for 1955 and from 75 percent to 90 percent thereafter, except for tobacco, which was to be supported at 90 percent of parity when marketing quotas were in effect. The transition to flexible supports was to be eased by "set asides" of basic commodities. Among provisions for various commodities was the requirement, still in effect, that wool be supported between 60 and 110 percent of parity, with payments to producers authorized as a method of support.

The Soil Bank, established by the Agricultural Act of 1956, was a large-scale effort, similar in some respects to programs of the 1930's to bring about adjustments between supply and demand for agricultural products by taking land out of crop production. The program was divided into two parts, an acreage reserve and a conservation reserve. The acreage reserve program came to an end in 1959. A major objection to the conservation reserve in some areas was that communities were disrupted when many farmers placed their entire farms in it.

The Agricultural Act of 1958 made innovations in the cotton and corn support programs, and provided for continuation of supports for rice but without requiring the exact level of support to be based on supply. Price support on most feed grains became mandatory. After 1960, cotton was to be under regular allotments, supported between 70 and 90 percent of parity in 1961 and between 65 and 90 percent after 1961. Corn farmers could vote to continue acreage allotments with supports between 75 and 90 percent of parity, or to discontinue allotments and receive a lower support price based on average prices of the preceding three years with a floor of 65 percent of parity. The second proposal was adopted for the 1959 and subsequent crops.

The Department expanded its program of food distribution to needy persons early in 1961 under an executive order. A pilot food stamp plan was started, the school lunch program was expanded, and a program begun to make better use of American "agricultural abundance" abroad.

The Feed Grain Act, approved March 22, 1961, provided that the 1961 crop of corn should be supported at not less than 65 percent of parity (the actual figure was 74 percent) and established a special conservation program for

diverting corn and grain sorghum acreage to soil conserving crops or practices. Producers were eligible for price supports only after retiring at least 20 percent of the average acreage devoted to the two crops in 1959 and 1960.

The Agricultural Act of 1961, approved August 8, 1961, established programs for the 1962 crops of wheat and feed grains, aimed at diverting acreage from these crops. The Act expanded the commodities for which marketing orders were authorized. The National Wool Act ~~was~~ extended for four years. The basic authority for the sale of surplus agricultural commodities for foreign currency, Public Law 480, ~~was~~ extended through December 31, 1964.

The Food and Agriculture Act of 1962, signed September 27, 1962, continued the feed grain program for 1963. It provided supports for the 1963 crop of wheat at \$1.82 a bushel (83 percent of parity) for farmers complying with existing wheat acreage allotments, and offered additional payments to farmers retiring land from wheat production. Under the new law, beginning in 1964, the 55-million-acre minimum national wheat acreage allotment ~~was~~ permanently abolished. Farmers were to decide between two systems of price supports. The first system included fines for overplanting acreage allotments and limited sales for domestic human consumption and export to a specified number of bushels by each farmer. Excess wheat could be used for feed and seed. The quota for human consumption would be supported between 65-90 percent of parity; the remaining production at a figure based upon its value as feed. The 15-acre exemption was also to be cut. The second system imposed no fines for overplanting, but provided that wheat grown by planters complying with allotments would be supported at only 50 percent of parity.

The first alternative was defeated in a referendum held on May 21, 1963, but a law passed early in 1964 kept the second alternative from becoming effective.

On May 20, 1963, another feed grain bill permitted continuation in 1964-65, with modifications, of the earlier bill. It provided supports for corn for both years at 65-90 percent of parity, and authorized the Secretary to require further acreage cutbacks.

The most important farm legislation in 1964 was the Cotton-Wheat bill, approved April 11, 1964. Authorization was provided for cotton subsidy payments to domestic handlers or textile mills in order to bring the price of

cotton consumed in the United States down to the export price. Cotton farms had a regular and a domestic cotton allotment for 1964 and 1965. A farmer complying with his regular allotment was to have his crop supported at 30 cents (about 73.6 percent of parity). A farmer complying with his domestic allotment would receive a support price up to 15 percent higher (the actual figure in 1964 was 33.5 cents).

The Cotton-Wheat Act of 1964 set up a voluntary wheat marketing certificate program for 1964 and 1965, under which farmers who complied with acreage allotments and agreed to participate in a land-diversion program would receive price supports and land-diversion payments, while non-compliers would receive neither. Wheat food processors and exporters were required to buy certificates to cover all the wheat they processed or exported. Price supports for wheat required for domestic consumption (in 1964, 45 percent) would be set from 65 to 90 percent of parity. The actual figure in 1964 was \$2.00 a bushel, about 79 percent of parity. Price supports for export wheat (in 1964, also 45 percent) would be from 0 to 90 percent of parity. The support price in 1964 was \$1.55 a bushel, about 61 percent of parity. The remaining wheat could be supported from 0 to 90 percent of parity, and in 1964 was at \$1.30, about 52 percent of parity. Generally, the actual price supports would be at \$1.30 a bushel in 1964, around the world market price, while farmers would receive negotiable certificates to make up the difference in price.

Programs established by the Food and Agriculture Act of 1965, approved November 3, 1965, are to be in effect from 1966 through 1969. After approval of the plan in a referendum, each dairy producer in a milk marketing area is to receive a fluid milk base, thus permitting him to cut his surplus production. The Wool Act of 1954 and the voluntary feed grain program begun in 1961 are extended to 1969.

The market price of cotton is to be supported at 90 percent of estimated world price levels, thus making payments to mills unnecessary. Cotton farmers' incomes are to be maintained through payments based on the extent of their participation in the domestic allotment program. The voluntary program calls for a minimum acreage reduction of 12.5 percent from effective farm allotments on all but small farms.



The wheat certificate program begun in 1964 is extended to 1969 with only limited changes. The rice program is to be continued, but an acreage diversion program similar to wheat is to be effective whenever the national acreage allotment for rice is reduced below the 1965 figure.

The Act established a cropland adjustment program, with 5-to 10-year contracts for conversion of cropland into water, soil, wildlife or forest conserving uses. Payments are to be at a rate of not more than 40 percent of the value of the crop that would have been produced on the land. The Secretary is limited to obligating not more than \$225 million per year in new contracts signed during each of the next 4 years.

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## **Section 9**

# **WORLD AGRICULTURAL DEVELOPMENT AND FOOD NEEDS**

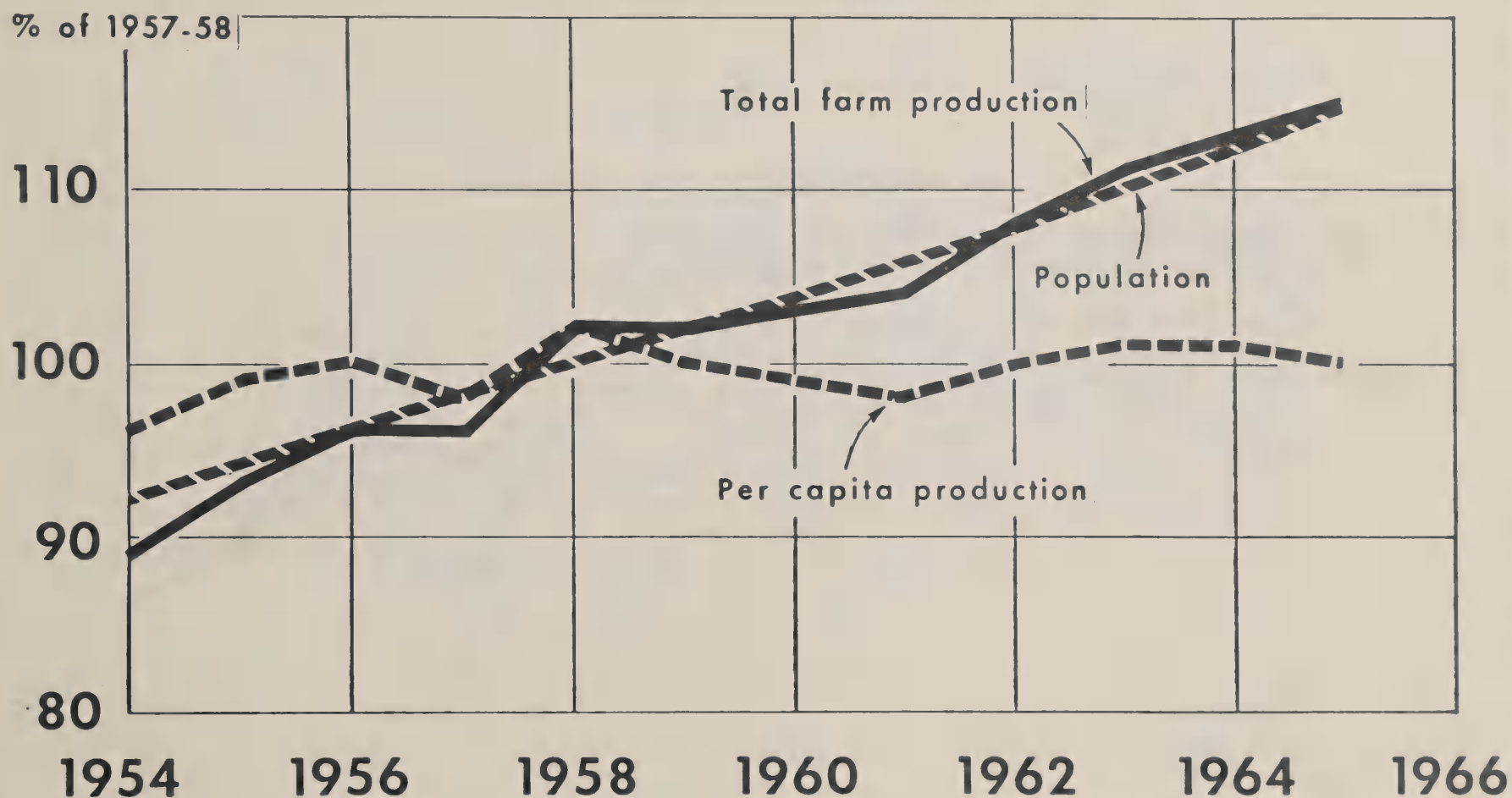
## World Population and Farm Production

Total world production of agricultural products in 1965 was about 1-1/2 percent higher than in 1964, a smaller gain than in each of the previous 2 years. Food production--dominated by the cereal crop, which increased only 1 percent, rose significantly less than the rise in world population. While production in the Western Hemisphere and in Western Europe rose faster than population, the reverse was true in most of the rest of the world. Total production fell in Eastern Europe and the USSR, dropping output per capita significantly. In Asia, total agricultural output was larger than in 1964, but output per person declined.

Throughout the northern part of Europe--from Ireland to the western part of the Soviet Union--the growing season was unusually cool and wet, and though record or near-record output was recorded for most cereal crops, quality was poorer. Output of most other important agricultural crops was also higher. Conversely, Soviet Union production of most crops was below 1964. Wheat production was probably only little better than the very poor 1963 crop due mainly to unfavorable weather conditions throughout the growing season in the eastern spring grain region. As a result, the Soviet Union in 1965 purchased for delivery during 1965-66 over 9.8 million metric tons of wheat from Canada, Argentina, and France.

Although a restricted beef supply continued to hold beef prices at high levels, cattle numbers in Western Europe (mainly dairy herds) increased by about 3 percent above 1964. Cyclically high pork production in Western Europe apparently moderated the upward trend in beef prices. Argentine exports were down following several years of relatively high exports. A severe drought in Australia did not depress 1965 beef exports, but will likely cause a decline in 1966. In the Soviet Union, the improved feed situation in 1964 assisted in the recovery of some of the losses experienced during 1963 with cattle and cow numbers on January 1, 1965, at a new high. However, a widespread outbreak of foot-and-mouth disease in the USSR is expected to have some impact on livestock production in 1966.

# WORLD: Total Farm Output Again High; Per Capita Output Down Slightly



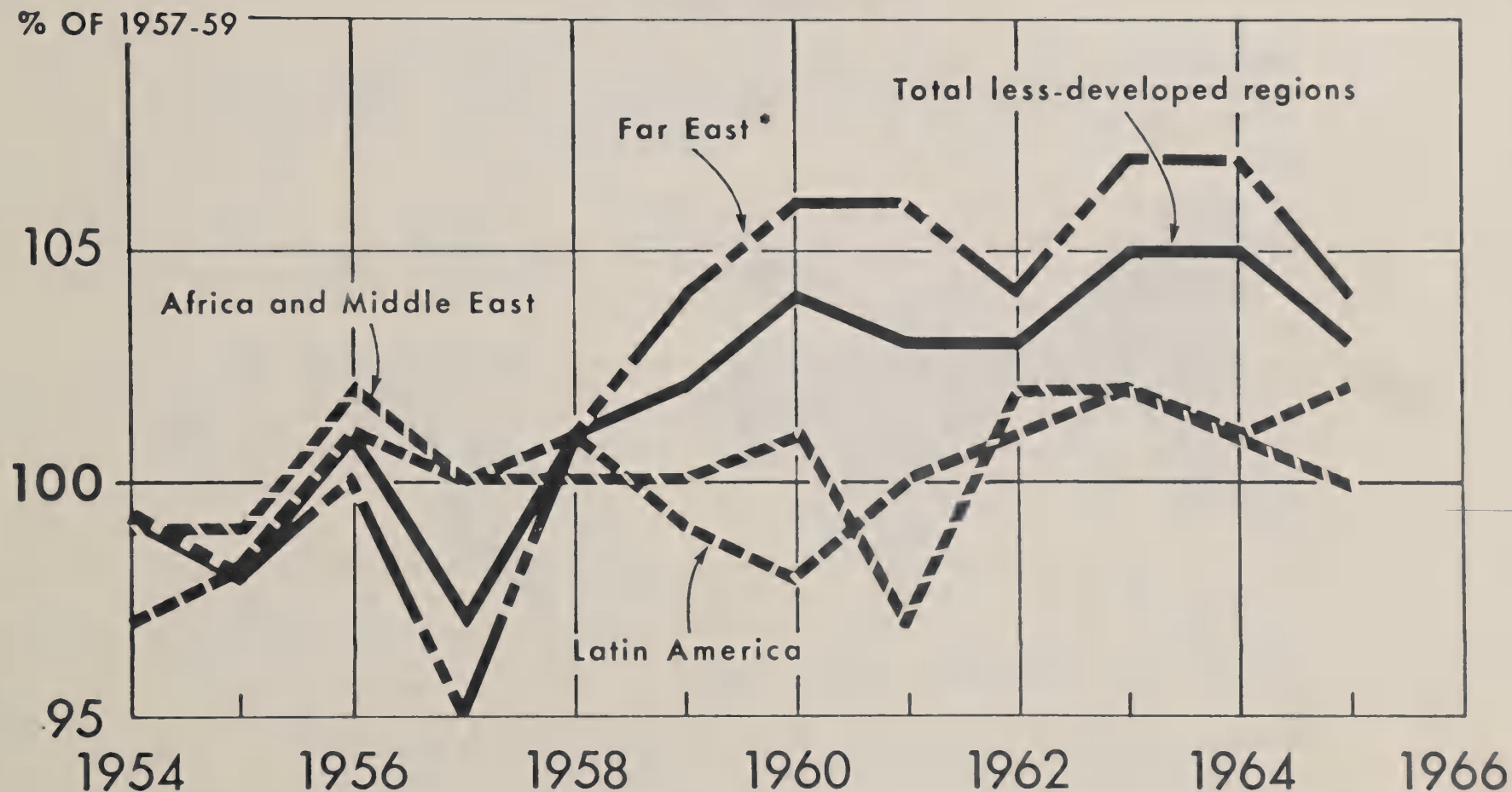
1965 DATA PRELIMINARY

### Per Capita Food Production by Regions

Since 1959, most of the less-developed regions of the world showed virtually no progress in increasing per capita food production.

Some have been able to keep pace with population growth; others have not. Over the past 10 years the Latin American countries have barely been able to match increases in food production with increases in population growth; per capita food production has improved a little in the past two years. In the Far East, some progress was made in the early 1950's to increase per capita food production. Since 1959, however, total food production has not kept pace with growth in population. The food situation in Africa and the Middle East is much the same as that in Latin America--food production and population growth increased at about the same rate over the past decade.

# INDICES OF PER CAPITA FOOD PRODUCTION IN THE LESS-DEVELOPED REGIONS OF THE WORLD, 1954-65



\* Excluding Mainland China



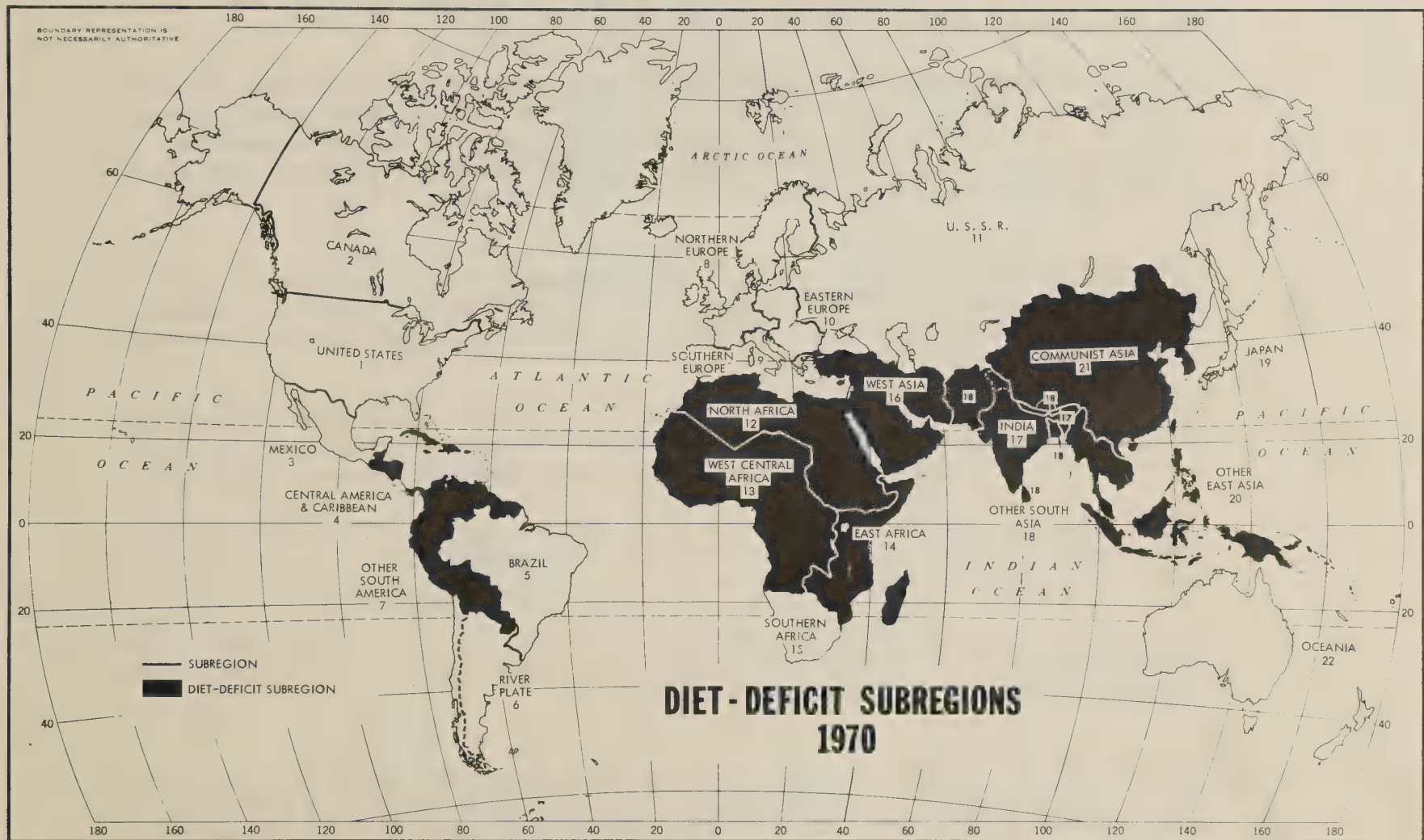
### Diet Deficit Subregions

Per capita food production in the world (excluding Communist Asia) increased annually only 0.32 percent since the prewar period. Even if this slight increase continued, much of the world will remain in diet deficit position by 1970.

Two-thirds of the world's people live in countries with nutritionally inadequate national average diets. The diet-deficit areas include all of Asia except Japan and Israel, all but the southern tip of Africa, the northern part of South America, and almost all of Central America and the Caribbean.

The diet of people in these areas averaged 900 calories per day below the level of the one-third of the world living in countries with adequate national average diets in 1959-61, and 300 calories below the average nutritional standard for the diet-deficit areas. The daily consumption of protein was less than two-thirds of the level in the diet-adequate countries; the fat consumption rate was less than one-third.

The diet-deficit countries are poor and food deficiencies merely reflect the low level of living in general. Per capita income in the base period was only \$97 compared to \$1,074 in the diet-adequate countries. Although economic development is taking place, it is to a large extent offset by increases in population. These countries are already densely populated--53 persons per 100 acres of agricultural land compared to 17 persons per 100 acres in the diet-adequate countries. And the population is increasing at a rapid rate of 2.1 percent annually, compared to 1.3 percent in the adequate areas.



U.S. DEPARTMENT OF AGRICULTURE

NEG. ERS 3084-64(9) ECONOMIC RESEARCH SERVICE

## Changes in Agriculture in 26 Developing Nations, 1948 to 1963

The agricultural problems of 26 developing nations are considered; 7 of these countries are in Latin America, 4 in Africa, 4 in Europe, 7 in the Near East and South Asia, and 4 in the Far East.

Between 1948 and 1963, 12 of the 26 developing nations had compounded rates of increase in crop output of more than 4 percent per year. These rates surpassed those ever achieved by now economically advanced nations during comparable periods of time. The 12 countries were: Sudan, Mexico, Costa Rica, the Philippines, Tanganyika, Yugoslavia, Taiwan, Turkey, Venezuela, Thailand, Brazil, and Israel.

From 1948 to 1963, rates of increase in crop output failed to exceed population growth rates in only 5 of the 26 countries--Nigeria, Egypt, Pakistan, Tunisia, and Jordan. From 1955 to 1963, Tunisia and Jordan alone had greater increases in population than in crop output.

The successes of the 12 leading countries in increasing their agricultural output enhance the possibility that underdeveloped countries generally can increase their per capita production of foods and fibers in the near future.

The 12 countries differ largely in many of the factors which influence their agricultural production potentials: in climate; rate of illiteracy; supply of land resources; cultural pattern; and governmental system.

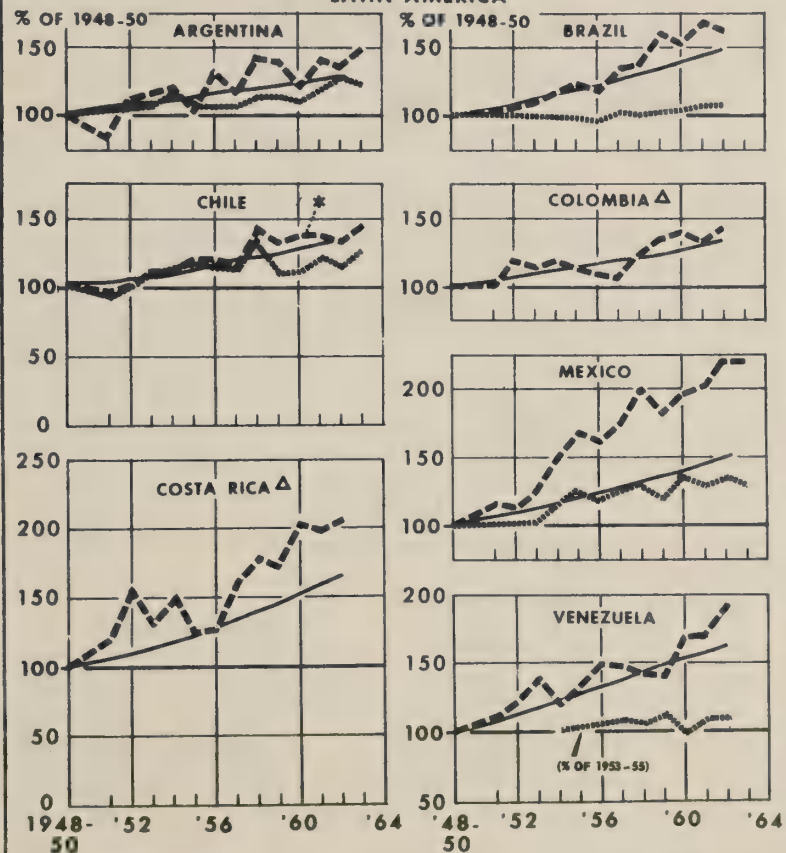
As a source of change in crop output, increases in the area of crops were more important than yield increases in 45 percent of the countries while yield increases were more important in 55 percent.

Rapid rates of increase in crop output have not happened just as a consequence of normal economic and social processes in societies organized on a laissez-faire basis. Rather, they have been undergirded by aggressive group action, generally national in scope, directed specifically to improving agricultural production conditions.

# INDICES OF POPULATION, TOTAL CROP PRODUCTION, AND YIELD OF ANNUAL CROPS

— Population    - - - Total crop production    — Yield (annual crops)

## LATIN AMERICA



■ FIELD CROPS ONLY.

Δ DATA TO EXPLORE DEFICIENCIES IN DATA ON LAND AREA, SERIES — YIELD HAS NOT BEEN CALCULATED.

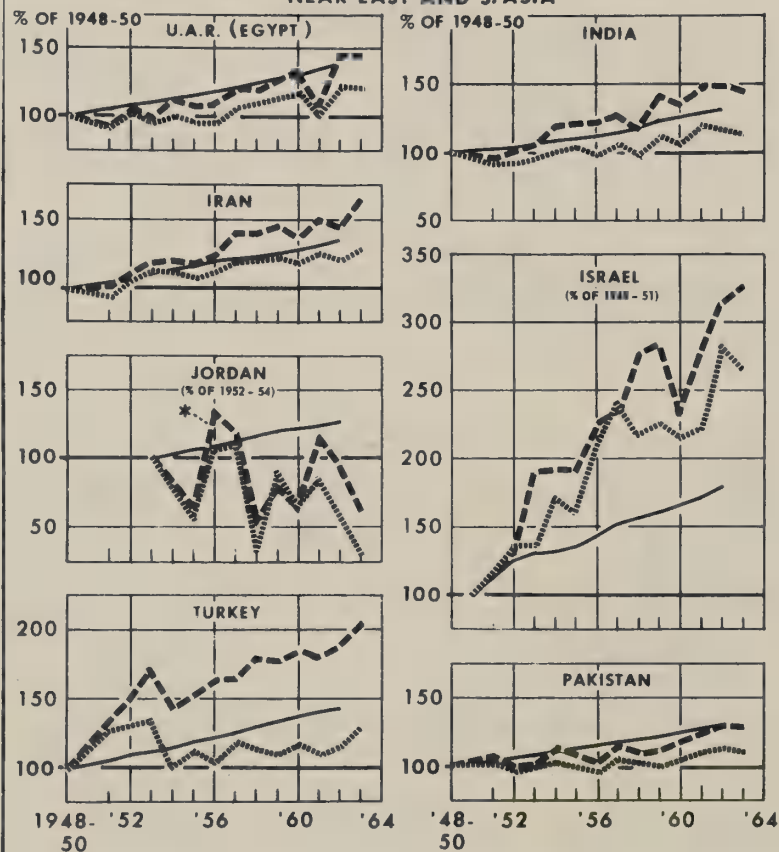
U. S. DEPARTMENT OF AGRICULTURE

WHL ERS 3616-65 (4) ECONOMIC RESEARCH SERVICE

# INDICES OF POPULATION, TOTAL CROP PRODUCTION, AND YIELD OF ANNUAL CROPS

— Population    - - - Total crop production    ····· Yield (annual crops)

## NEAR EAST AND S. ASIA



■ FIELD CROPS ONLY.

U. S. DEPARTMENT OF AGRICULTURE

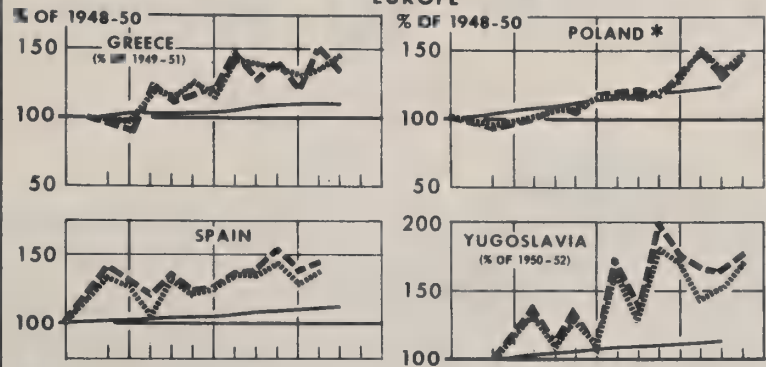
NEG. ERS 3614-65 (4) ECONOMIC RESEARCH SERVICE



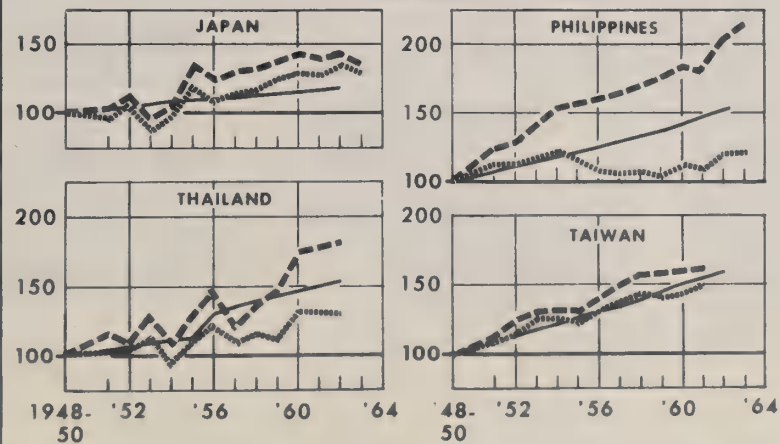
# **INDICES OF POPULATION, TOTAL CROP PRODUCTION, AND YIELD OF ANNUAL CROPS**

— Population    - - - Total crop production    ····· Yield (annual crops)

## **EUROPE**



## **FAR EAST**



■ YIELD DATA FOR 6 ANNUAL PERIODS

U. S. DEPARTMENT OF AGRICULTURE

REG. ERS 3615-65 (4) ECONOMIC RESEARCH SERVICE

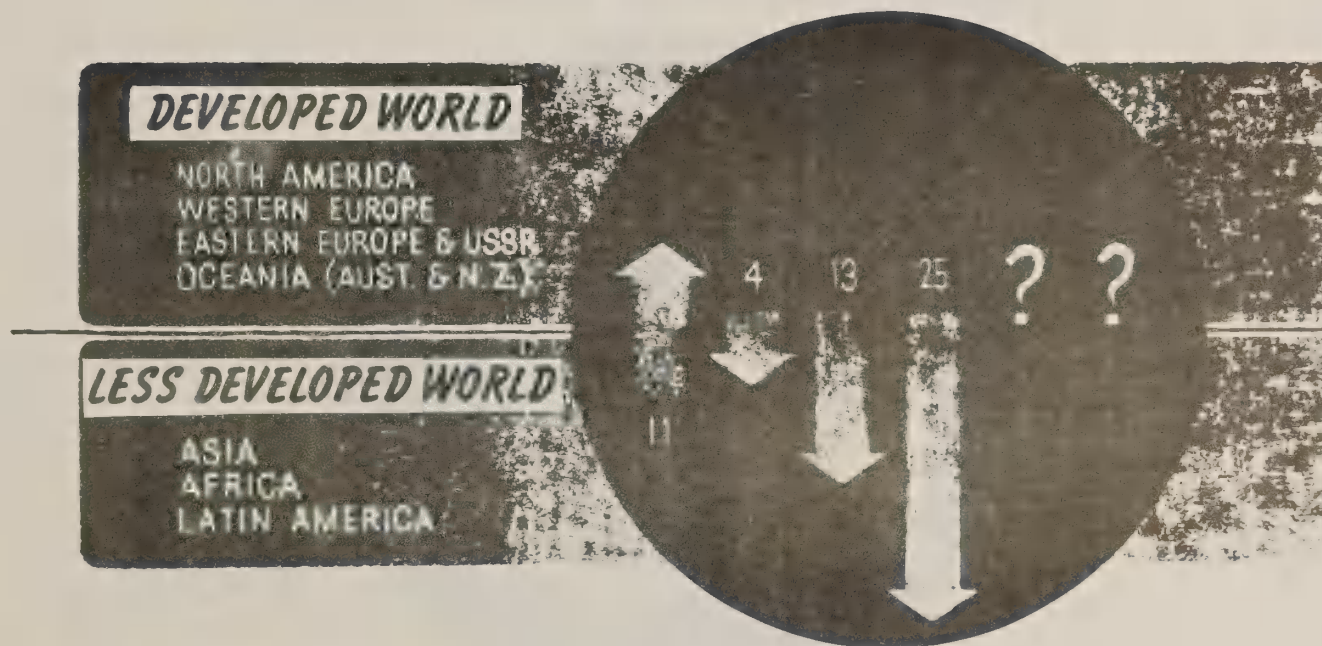
Transition of Less-Developed Countries  
From Exporters to Importers of Food

The less-developed world in total is falling behind in its capacity to feed itself. Before World War II the less-developed regions exported grain to the developed regions. In the 1934-38 period the less-developed world exported 11 million metric tons of grain. By the 1948-52 period, the less-developed world has become a net importer of grains of some 4 million metric tons. Grain imports have been increasing steadily, reaching 13 million metric tons in 1957-59 and 25 million metric tons in 1964.

These data indicate that the loss in capacity to feed itself on the part of the less-developed world has been going on for nearly 30 years. This is a much longer-term phenomena than the stagnation of per capita food production in recent years.

# NET FLOW OF WORLD GRAIN

(Million Metric Tons)

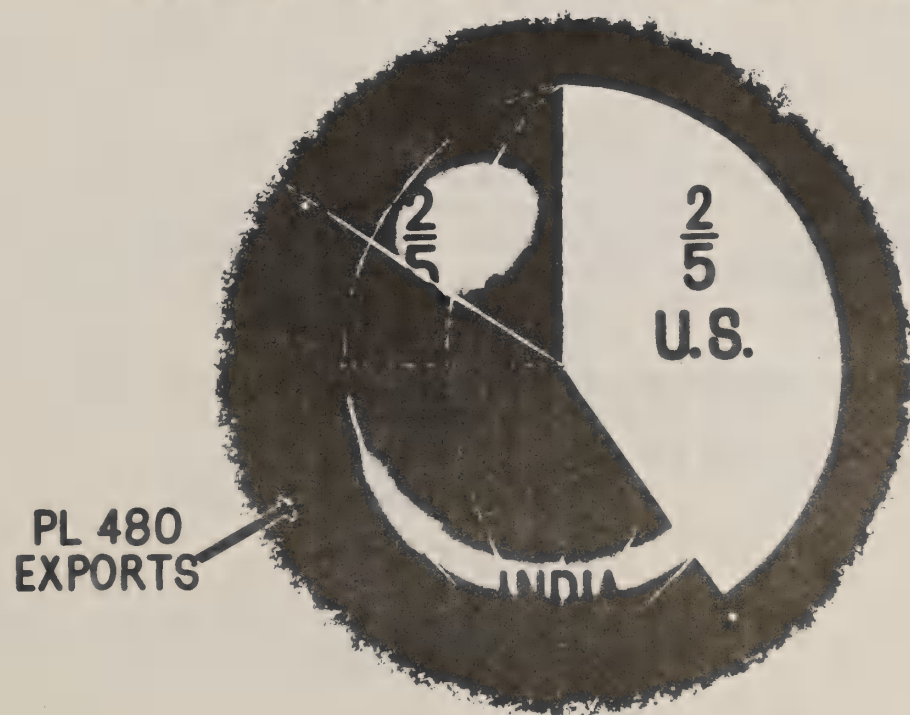


#### Consumption of the 1964 U.S. Wheat Crop

In 1964 approximately 45 percent of the U.S. wheat crop was exported under P.L. 480. India alone took ~~two~~<sup>one</sup>-fifths of the U.S. crop. Other countries received about 25 percent of the crop under the P.L. 480 program.

Two-fifths of the 1964 wheat crop was consumed domestically, and about 15 percent went for commercial dollar exports.

# CONSUMPTION OF THE 1964 U. S. WHEAT CROP





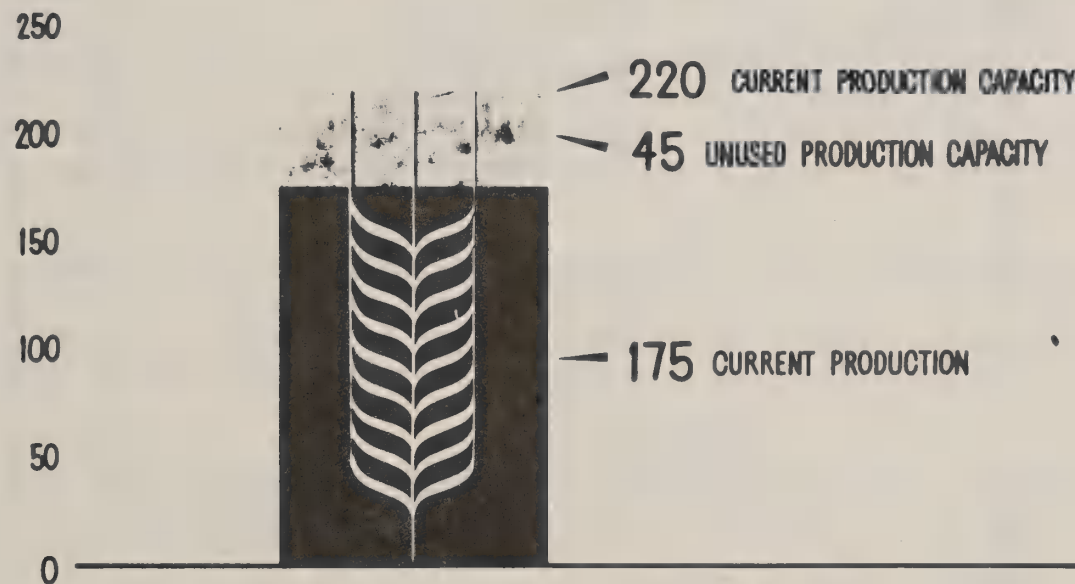
### U.S. Grain Production Capacity

In the next couple of years, it is estimated that the United States could increase its grain production for food aid by 45 million tons. Such an estimate assumes that the increase would consist of about two-thirds wheat and one-third feed grains. This is a grain mix that is acceptable for food aid and maximized the amount of feed grains that can be programed for food aid. To provide this mix of grains would require a change in programs.

Of course, total grain production could be increased by more than 45 million tons. But, such increases would be mostly in feed grains rather than food grains which are most in need for food aid purposes.

# CURRENT U.S. GRAIN PRODUCTION and PRODUCTION CAPACITY\*

(Million Metric Tons)



\* ASSUMES THAT INCREASED PRODUCTION IS PROGRAMMED SO THAT 2/3 OF THE INCREASE WOULD BE WHEAT.

Projected U.S. Availability of All Grains for Food Aid  
and Needs of 66 Less-Developed Countries, 1970-85

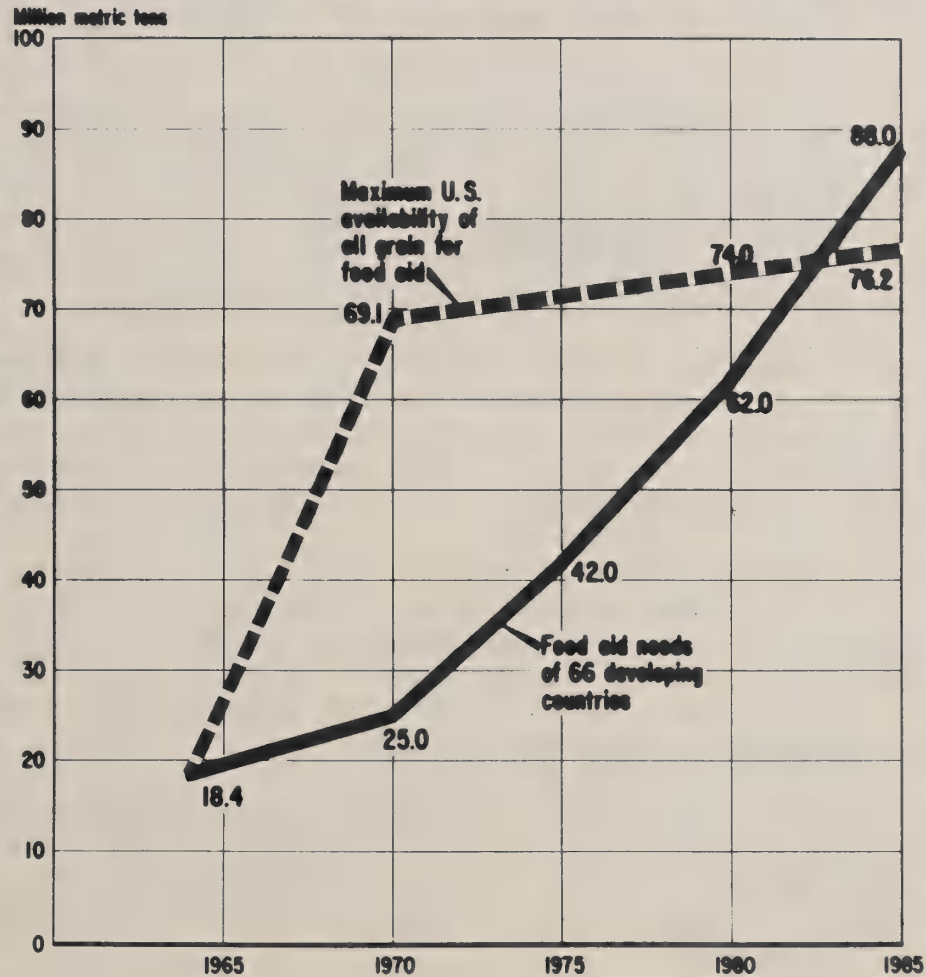
At approximately present grain prices and without acceleration in investment in production capacity, the U.S. could make available substantially more total grain for food aid by removing constraints on production. These availabilities are the quantities of domestic production that would be left over after satisfying growing domestic and commercial foreign demands, and do not necessarily represent the best grain mix for food aid purposes.

By 1970, the U.S. could make available 69 million tons of grain annually for food aid, compared with 18.4 million tons in 1964. This large initial jump in availabilities reflects mainly fuller utilization of current idle production capacity. By 1980 we could make available 74 million tons, and about 76 million tons by 1985.

The food grain needs of 66 less-developed countries would grow rapidly if their rate of increase in production of food was no faster in the future than it has been in the past. The grain import needs would increase to an estimated 25 million tons in 1970; 62 million tons in 1980; and 88 million tons in 1985.

The projections show that by sometime in the early 1980's the food aid needs of the 66 less-developed countries would exceed the possible availabilities from the U.S. And, by 1985 this excess of needs over availabilities would be in the order of 12 million tons.

# *Maximum U.S. Availability of all Grain for Food Aid and Food Aid Needs of 66 Developing Nations, 1970-1985*



Summary of  
The World Food Budget 1970\*

Two-thirds of the world's people live in countries with nutritionally inadequate national average diets. The diet-deficit areas include all of Asia except Japan and Israel, all but the southern tip of Africa, the northern part of South America, and almost all of Central America and the Caribbean.

The diet of people in these areas averaged 900 calories per day below the level of the one-third of the world living in countries with adequate national average diets in 1959-61, and 300 calories below the average nutritional standard for the diet-deficit areas. The daily consumption of protein was less than two-thirds of the level in the diet-adequate countries; the fat consumption rate was less than one-third.

Some progress is expected in the diet-deficit area during the rest of this decade. The calorie level by 1970 is expected to be 8 percent above the base period (1959-61). Consumption of protein and fat is expected to be up 10 and 16 percent, respectively. This indicates an improvement not only in the quantity of food per person but also an improvement in quality.

However, a food deficit will still exist in 1970. The expected calorie gap will be the equivalent of 54 million metric tons of grain. The deficit in animal protein will likely be equivalent to 6.5 million tons of nonfat dry milk. About 3.2 million tons of soygrits would be required to fill the pulse and other protein deficit. And 3.1 million tons of vegetable oil would be needed to satisfy the fat deficit.

The total cost of the food deficit in 1970 is projected to be \$6.8 billion. This amount would be about one-third below the cost of the food deficit during the base period, 1959-61. About 93 percent of the deficit is accounted for by countries in the Far East; Communist Asia alone is responsible for 62 percent.



The diet-deficit countries are poor and food deficiencies merely reflect the low level of living in general. Per capita income in the base period was only \$97 compared to \$1,074 in the diet-adequate countries. Although economic development is taking place, it is to a large extent offset by increases in population. These countries are already densely populated--53 persons per 100 acres of agricultural land compared to 17 persons per 100 acres in the diet-adequate countries. And the population is increasing at a rapid rate of 2.1 percent annually, compared to 1.3 percent in the adequate areas.

The basic problem of the diet-deficit countries is one of productivity. The people cannot produce enough food to feed themselves or produce enough other products to afford to buy the food they require. Food production has barely been able to keep ahead of population growth, much less provide for the expanded demand resulting from some improvement in per capita income, most of which goes for food. Per capita food production increased annually only 0.32 percent since the prewar period (excluding Communist Asia), and it is expected to increase over the decade of the 1960's at about the same rate. There will be increasing pressure upon the food supply but at rising levels of consumption.

Much of the modest improvement in per capita food consumption results from changes in trade patterns. The net grain trade position of the deficit areas has reversed--from 2.8 million metric tons for export, prewar, to an expected 27 million tons to be imported in 1970. Still, the level of food imports is very meager in the diet-deficit areas. It amounts to only about \$1.66 per capita compared to almost \$12 per capita in the diet-adequate areas.

Food aid accounts for a large part of the food imports into diet-deficit countries. These countries imported \$3.2 billion worth of food in 1959-61. Close to one-third of this came from the United States under concessional programs. Food aid will likely continue to make important contributions to diet improvement as well as economic development. However, considering the size of the nutritional gap, the limitations of expanding food aid, and the chronic balance-of-payments problems in most less developed countries, the food gap will eventually have to be filled largely within each country itself.

This is a formidable task. Over most of the world's history, the amount of agricultural land has increased with population. In the densely populated diet-deficit countries, new lands are no longer available at a reasonable cost, so agricultural development requires improvement in yields per acre. This is difficult to accomplish when the labor force is largely illiterate and lacking in capital and the technical and managerial skills necessary for adopting modern cultivation methods. The task is made even greater by the necessity of providing capital not only for agriculture but also for a rapidly growing nonagricultural sector and urban population.

There is a vast reservoir of knowledge in the developed countries which, if properly adapted to the specific conditions of the deficit countries, could go a long way towards increasing the output of food. But the problem is the gap separating the existing body of known technology from its application. Improved technology has been applied in only a small part of the world, but this does not mean that it cannot take place in other parts of the world. Nor should it require the same amount of time.

The diet-adequate subregions have assured the food supply for a billion people. In addition to assuring their own food supply for the foreseeable future, in the past decade they have been able to send food assistance to many of the less developed regions. They operate the agricultural land more intensively; they allocate substantial resources for education, research, and development; and they provide facilities and services for agriculture. This means greatly increased yields per acre, greater output per unit of livestock, and increased output per hour of labor.

Expanding population, economic development, and improvement in diets will result in a significant increase in world food trade during the 1960's. Exports of food are expected to increase 37 percent to \$22 billion annually by 1970. The United States will share in this increase; food exports from the United States are expected to increase 50 percent above the base period to \$4.8 billion by 1970. An increasing proportion of these exports will go to the diet-deficit subregions and will play an important role in upgrading their diets.

Summary of Man, Land and Food: Looking Ahead  
at World Food Needs \*

This study, looking to the year 2,000 when the world's population may be double what it is today, draws these two principal conclusions:

1. The effort required by the less developed regions to feed, at assumedly modest levels, their projected populations for the four remaining decades of this century will severely tax their resources.
2. The role of the U. S. agricultural sector, as a source of food, capital and technical assistance for the food-scarce, less developed regions, is growing steadily, promising to achieve an importance without precedent.

The study points out that North America is emerging as the world's bread-basket, and that the rapid population growth of the rice-consuming regions "will result in the gradual substitution of wheat for rice in many countries."

The food problem is not new, but the rapid growth of population--especially in the countries least able to feed their citizens -- has greatly changed the magnitude of the problem. While the highest 10-year population growth rate for the developed world this century was 12.8 percent, the 10-year rate for the underdeveloped world is now 22.4 percent and still rising.

The developed countries -- Europe, North America, Australia, and New Zealand-- have plenty of food. But in most less developed countries in Asia, Africa, and Latin America -- per capita diets are substandard. The report poses such questions as what it will take to raise the food supply per person in these less-developed countries 10 percent by 1980, another 10 percent by 2,000.

Two ways of increasing food supply in the less developed regions are considered: Expanding the area of cultivated land and increasing the world per acre. Up to about 1950 additional food output came mostly from increasing the cultivated area, but since 1950 raising yields has been the principal



factor. It appears that the limited land supply will have to be cultivated more intensively, with greater use of fertilizers, pesticides, improved seeds and machinery. But this will require shifting from traditional to improved farming methods, which in turn assumes development of incentives for change and largescale adoption of new technology.

All of the world's seven major geographic regions increased total grain output from 1935 to 1960. Grain output per capita, however, increased in the developed regions of the world, but declined in the less-developed regions.

The report is an empirical-historical approach to the world food situation. It discusses distribution of the food supply, world food trade patterns, deficit areas, the role of the U. S., capital inputs needed, and production increases required. It brings into focus the enormity of the problem of feeding the world during the remaining decades of this century.

#### Summary of Increasing World Food Output: Problems and Prospects\*

The less-developed world is losing the capacity to feed itself. Recently, food output per person in these densely populated regions (Asia, Africa, and Latin America) has trended downward. Before World War II these regions exported grain to the developed countries, but in 1964 they imported an estimated 25 million tons of grain.

Many of the less-developed countries have nearly exhausted the supply of new land that can readily be brought under cultivation. These countries must look to rising per acre yields for most of the additions to their food supply. They must generate a yield takeoff--a sustained rise in yield per acre.

The problem is to generate the yield takeoff. And the big question is: What is needed for a yield takeoff? Evidence points to the following factors:

1. A reasonably high level of literacy. A trend of rapidly rising yields implies the continuous movement of new ideas and techniques from the research plot to the farmer, and this is much easier in a largely literate society.

2. A level of income per person high enough to permit the accumulation of capital which is necessary to purchase yield-raising inputs such as fertilizer and improved seeds.

3. The development of a market oriented agriculture. In subsistence-type economies, the share of farm output entering the market is often very small, limiting the amount of cash which farmers have to purchase yield-raising inputs such as fertilizer.

4. The development of the nonagricultural supporting sector, which must supply a wide variety of goods and services, varying from capital inputs such as fertilizer and pesticides to services such as research, credit, and transportation.

Although the factors described above may facilitate a yield takeoff they are not sufficient to cause a yield takeoff without certain incentives.

Favorable prices for farm products are an important incentive. That is, prices that are favorable compared with the cost of the purchased inputs required to raise yields. Less-developed economies usually have much lower food prices and much higher fertilizer costs than developed economies. For example, a pound of rice in Japan buys three times as much ammonium sulphate as a pound of rice in India.

Furthermore, the people on the land must be the principal beneficiaries of these favorable prices. There must also be a strong link between effort and reward. The strength of this link is affected by such factors as patterns of land tenure and tax systems.

The densely populated, less-developed countries, which have virtually exhausted the supply of land that can readily be brought under cultivation must compress a lot of progress into a very short period of time if they



are to generate the yield takeoff needed to feed their rapidly growing populations.

Once a country achieves a yield takeoff, yields tend to continue upward. There is no record of a country in which yields have tended to level off or trend downward after a yield takeoff has been achieved.

#### Summary of Foreign Economic Growth and Market Potentials for U. S. Agricultural Products \*

The Economic Research Service recently completed a study of how income growth abroad affects our agricultural exports. World markets for American farm products are becoming increasingly important. The value of U. S. agricultural exports amounted to \$6.1 billion in fiscal 1963-64, compared with about \$3 billion a decade ago and less than \$1 billion during the 1930's. In 1963, farm products from 80 million harvested acres -- about one acre in four -- were exported. These growing exports have become increasingly important in balancing our international accounts with other nations, maintaining domestic farm incomes, and stimulating economic development abroad.

Analysis of trade and income data from 1938 to 1959-61 shows that total U. S. exports increased about 12 percent for each 10 percent increase in per capita income in foreign countries. U. S. agricultural exports increased about 11 percent for each 10 percent increase in per capita income abroad.

U. S. commercial agricultural exports to the 1.3 billion people in less-developed countries increased about 16 percent for each 10 percent increase in per capita income. U. S. commercial agricultural exports currently average only 50 cents per person in the less-developed countries, while they averaged more than \$5.00 per person for the developed countries. The greatest long-term foreign market potential is in the less-developed countries, and it is in our economic interest to help promote economic growth in these countries.

## THE WORLD AGRICULTURAL SITUATION: REVIEW OF 1965 AND OUTLOOK FOR 1966

Total world production of agricultural products in 1965 was about  $1\frac{1}{2}$  percent higher than in 1964, a smaller gain than in each of the previous 2 years. While production in the Western Hemisphere and in Western Europe rose faster than population, the reverse was true in most of the rest of the world. Total production fell in Eastern Europe and the USSR, dropping output per capita significantly. In Asia, including China, total agricultural output was larger than in 1964, but output per person declined.

World output of major farm commodities in 1965 varied widely from the year before. Soybeans, up 16 percent, coffee, up 51 percent, and olive oil, up 17 percent, dominated commodities showing gains. Principal among those with declines were potatoes, down 7 percent, sugar, down 3 percent, tobacco, down 4 percent, apples and pears, down 9 percent, and cocoa beans, down 6 percent.

World wheat production in 1965/66 is expected to be only slightly below the record harvest of the previous year. Rice production is expected to be at about the same level as last year. World output of feed grains will likely be up for 1965/66 due largely to record crops of corn and sorghum and an upturn in the production of oats. The output of barely declined about 4 percent.

World trade for 1965 probably continued the gradual upward trend of the past decade. Increases were indicated for wheat, feed grains, coffee, and oilseeds. Trade of dairy products, tobacco, and pork probably totaled less in 1965.

World wheat trade in 1965/66 is expected to reach the record level of 1963/64. The projected gain mostly reflects the large purchases of the USSR from the Free World, and the continuation of the large imports of Mainland China. The USSR, as of December 1, had purchased over 360 million

bushels, while Mainland China had bought around 240 million bushels. Exports to the other principal world markets--Western Europe and Japan--probably will not vary much from the high levels of the previous year.

World feed grain trade likely will rise further in 1965/66. The continued economic growth in Western Europe and Japan has generated a strong demand for livestock products. This fiscal year, Eastern Europe may also show increased interest in imports of feed grains.

U.S. agricultural exports are expected to advance to a fiscal year record of \$6.2 billion in 1965/66, compared with \$6.1 billion in 1964/65. Increases are expected in exports of corn, grain sorghums, wheat, tobacco, soybeans, fruits, variety meats, and hides and skins. Somewhat offsetting the above gains will be declines for cotton, dried beans, dairy products, and lard. Commercial sales for dollars will probably total about \$4.6 billion, a record, compared with \$4.4 billion in 1964/65. Exports under Government-financed programs are expected to total about \$1.6 billion, compared with \$1.7 billion a year earlier.

Output of agricultural products in 1965 was up substantially from the 1964 levels in all regions of the Western Hemisphere, primarily because of better weather. Output in Canada was near the record high of 1963, and except for untimely rains during the fall harvests a new record would have been set. U.S. production reached a record level as a dozen important field crops set new yield records.

Agricultural production in Latin America, led by Brazil, advanced to a record level in 1965. Coffee production, up sharply from the very poor 1964 crop, accounted for much of the sharp gain in Brazil. Output in many of the other Latin American countries was up moderately. However, in Argentina 1965 production was about the same as the previous year and in Uruguay and Chile output was down somewhat.

West European total agricultural production reached a new record, 2 percent above 1964. Relatively good weather during the 1965 growing season resulted in record production. Spain and Portugal, continuing to suffer from drought conditions, were the chief exceptions. An otherwise exceptional year for Western Europe was marred somewhat by rains during the harvest season which significantly lowered grain quality.

Agricultural output in Eastern Europe, on the other hand, was down sharply in 1965 because of adverse weather. Crop output in the Soviet Union was affected by serious drought conditions, similar to those of 1963, which plagued the eastern spring grain regions.

Favorable weather was dominant in Africa where agricultural production in 1965 was up 2 to 3 percent from the previous year. The chief exceptions were the Republic of South Africa and parts of East Africa where drought adversely affected agriculture.

In the Far East and Asia, there was a sharp downturn in cereal production in India from the 1964/65 record level, resulting in import requirements at least as large as in 1964/65. In Mainland China, production in 1965 probably was little different from that in 1964 and imports of cereals from the West will continue at a high level. On the other hand, Indonesia's 1965 food crop outturn, including rice, was well above the rather poor 1964 harvest.

Agricultural production in Australia and New Zealand contrasted sharply in 1965. Widespread drought in Australia curtailed the 1965 harvest, while favorable weather contributed to a production increase in New Zealand.







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